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ABSTRACT

The 1968 Educational Commission, appointed by the Swedish Minister of Education, was charged with the tasks of working out an overall plan for the future postsecondary education of Sweden, covering in particular its capacity, location, and organization. This document summarizes the report of the Commission. Emphasis is placed on the definition of higher education, the number of students in higher education, the organization of studies, the location of higher education facilities, admission to basic higher education, institutional organization, costs, and implementation of the Commission's proposals. Appendices, figures, and tables are included. (MJM)

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U68

Higher Education

Proposals by the Swedish
1968 Educational Commission

Stockholm 1973

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Introduction

In 1968 the Swedish Minister of Education appointed a commission (The 1968 Educational Commission, U 68) with the task of working out an overall plan for the future post-secondary education of the country, covering in particular its capacity, location and organisation. The main report of the commission (Högskolan, SOU 1973:2) was given to the Minister of Education in March, 1973.

The members of the Commission and its three adjoint Reference Groups are listed in appendix 1. Through the Reference Groups, representatives of the political parties, of teachers and students, and of the various labour market organisations, have taken part in the work of the Commission. On specific questions, separate statements have been submitted by some members.

By its terms of reference, the Commission has had to consider all kinds of basic post-secondary education, excluding research training and research. It has thus covered a broader field than the present universities and corresponding institutions. At the same time, it has dealt with only part of what is usually meant by Higher Education. Obviously, the Commission has had to take into account the relationship between, on the one hand, its own field of work, and on the other, research and research training.

The present English edition is a translation of the summary (Högskolan, Sammanfattning, SOU 1973:3) attached by the Commission to its report. The full report is available only in Swedish. The translation follows in all essential the Swedish text. However, some minor details are omitted, that have been considered to be of no interest to the foreign reader. Where this is possible, the terminology has been adapted to standard English translations of terms used in the present Swedish organisation of higher education. In some cases, new terms are introduced or old terms used with a partly new meaning.

1 Definition of higher education

1.1 *Definition of the Commission's task*

The task of U 68 covers the capacity, location and organisation of basic education in the sector customarily delineated by such terms as "post-secondary education" or "higher education". It covers more than what is currently denoted in the official statistics as "universities and equivalent institutions". The Commission proposes that the term *higher education* be used to designate this sector of education. Appendix 2 shows what would be designated, by the terms of the Commission's proposals, as basic higher education, or simply basic education. Higher education, which includes also research training, can be essentially characterised as publicly provided education based on a higher level of schooling than the 9-year comprehensive. U 68 assumes that basic higher education will be based as a rule on the *general* qualification requirements adopted by the Swedish Parliament in 1972. In many cases, special further requirements will be made in respect of previous knowledge.

Given its proposed scope, higher education extends considerably beyond the administrative sphere of the Office of the Chancellor of the Swedish Universities, the colleges of agriculture, and other units currently termed colleges. By the terms of the Commission's proposals, higher education will have different authorities as principals (the state, the county councils, and the municipalities). Even certain state-supported private education is termed higher education in the proposals. Nor are the rules for admission to such education entirely uniform in the sense that the same general rules on qualification will apply without exception. In choosing the term higher education, the Commission has tried to delimit for overall planning a sector held together by uniformity *in the main* in respect of the age of students and rules of admission, and by different types of education in the sector being to some extent alternatives to each other from the students' point of view. The aim should be to achieve a more coherent organisation, both locally and centrally, within which higher education can be treated as a unity with regard to quantitative planning, the location of facilities, and the development of new educational programmes.

U 68 starts from the premise that higher education is to prepare students for subsequent occupational activities. This has consequences for its capacity and organisation, and to some extent also its location. Obviously, it does not imply that every study unit in a university or college should be directly linked to an occupation. The intention is rather that the individual's basic education as a whole should prepare him for an occupation. In the opinion of the Commission, working life should constitute an important source of renewal for education, at the same time as education should function as an important instrument for the development of working life.

The Commission's terms of reference do not cover research and research training. Since, however, these activities at universities and colleges are organised jointly with basic education, they are affected by the Commission's proposals on institutional organisation. One of the functions of basic education, although this applies to a small proportion of students, is also to prepare for research training, and indirectly for professional activities as researchers. U 68 considers contacts between basic education and research to be essential; this partly to promote a continuous renewal of educational content. It is desirable that such contacts be expanded to cover all higher education, e.g. by collaboration with research workers in the planning and realisation of instruction. In the Commission's opinion, the in-service training of teachers in higher education is an important aspect of such contacts.

1.2 *The sub-division of higher education*

U 68 proposes that basic higher education be organised on educational programmes which can be general, local or individual (see also Chapter 3). It is proposed that higher education should also be provided in the form of single courses. The present sub-division of universities and colleges into faculties and sections covers only part of the system now proposed. Since higher education is to prepare students for an occupation, the Commission proposes, for basic higher education, a subdivision of the educational programmes into occupational training sectors. These sectors would thus replace the present faculties and sections in respect of basic education in the traditional field of higher education. Five sectors are proposed for training and education in respectively:

technology
administration and economics
medicine and social work
teaching
cultural work and information.

The sub-division of programmes into these five sectors is shown in Appendix 3. Obviously, a sub-division of this kind involves certain difficulties in drawing the boundaries. One example is the various types of education for activities in the social sector, and in the care of children and young people. The educational programmes for social work and the training of social educationists, have been classified under "medicine and

social work", while the training of child care instructors, pre-school teachers and recreational readers have been ascribed to the teaching sector, and the training of youth leaders to the cultural work and information sector. Classification must allow not only for the content and structure of training, but also for the conditions of working life, including possible substitutions between different categories of graduates. Trends and planning in, for instance, the care of children and young people can warrant in due course a new boundary between the sectors. In any event, it should be stressed that the planning and realisation of training must in many cases involve collaboration over the boundaries between sectors.

For certain purposes, other sub-divisions than into occupational sectors can be practical. Such a classification, which relates to the less occupationally geared, more general content of the different programmes (a content which is common to several occupational training sectors), is that into different fundamental educational fields, or "base fields". In considering, among other things, the organisation of such education as is at present covered by the university faculties of philosophy, the Commission has found a division into seven such fields to be practical. The sub-division can also offer certain guidance when considering the planning of various base resources, e.g. teaching staff, equipment and premises. These base fields of education are:

physics and chemistry
chemistry and biology
behavioural sciences
social sciences
mathematics and systems sciences
linguistics
history, aesthetics, and science of religion

As an example, an educational programme for the training of language teachers belongs, in respect of occupational association, to the sector for teacher training, but in respect of its more general educational content, to the base field of linguistics.

U 68 sees no point in proposing a sub-division of all higher education into base fields. There is reason to stress also that a classification along these lines is not designed to characterise the entire content of an educational programme. An education that is essentially physical-chemical in nature (such as certain higher technical education) can contain elements of, say, linguistics or economics. In many cases, such elements can contribute to the desired diversification.

1.3 *The goals of higher education*

Education is designed, by the development of knowledge, skills and attitudes on the part of students, to achieve certain more or less clearly established objectives. These objectives are promoted not only by the content of teaching and by working procedures, but by the capacity and location of educational facilities, the organisation of studies, rules on admission, the forms in which financial support for studies is provided,

and the institutional organisation. In the introductory chapter of its main report, U 68 discusses these general objectives, thus providing a background for its subsequent proposals.

The Commission groups its views on the objectives of higher education under the headlines of

personality development
welfare development
democracy
internationalisation
social change.

To a large extent, the goals of higher education are the same as for other publicly provided education. Their special character stems from the age of the students, their previous education and other experience. One of the goals of higher education is to prepare students for a career. Given the objectives set by U 68, major planning problems include the diversification of higher education to meet the interests, potentials and occupational aims of different students, and the degree to which studies should be specialised.

The pedagogic aspects of higher education are not a main task for U 68. Since, however, such questions have an important bearing on the functioning of education, the Commission briefly discusses objectives in respect of the content of teaching and working procedures. These are considered in three dimensions:

area of application
skills and knowledge
orientation on problems

The object is to be able to use this sub-division in specifying the aims of an educational programme or a course.

1.4 *Recurrent education*

The scale of adult education has greatly expanded in the past ten years (see Section 2.1). The emphasis, however, in the expansion of the Swedish educational system has been on the integrated upper secondary school, and such higher education as is more or less directly associated with this. In this context, the vocational elements have been moved forward to the later stages of education. The compulsory 9-year comprehensive school now provides education of a more general nature.

The Commission questions the wisdom, in future planning, of accepting these tendencies towards an increasingly long coherent period of introductory education, and a consistently more general education also beyond compulsory school level. Certain experiences of how schools function at present lead the Commission to recommend the development of patterns for recurrent education.

The educational organisation as such has an important bearing on the social selection which takes place within the education system. At the Commission's request, this problem has been investigated by Bengtsson and Gesser et al. in studies published in "Val av utbildning och yrke" (Choice of education and vocation, SOU 1971:61). The present organisa-

tion, with its emphasis on coherent education, tends to assign a decisive importance to choices made by schoolchildren. There is strong evidence that this is an essential factor underlying the distorted social distribution of the upper secondary school, with its overrepresentation of the first socio-economic group in the lines that most directly prepare pupils for the types of higher education most in demand.

Long coherent periods of education create problems in the relationships between education and working life, and the community at large. When the essential direction of studies is determined by choices made in the 9-year comprehensive school, often up to a decade before the student enters working life, the choice is obviously made without the knowledge of labour market conditions needed to offer reasonable assurance that job opportunities will be available on the conclusion of studies. This difficulty is aggravated by the rapid changes taking place on the labour market. As a rule, the student also has insufficient experience to be able to judge his own potential in relation to the demands of working life. In addition to this, the length of the coherent education period tends to screen students off from the community at large (both within their own country and internationally), and can tend to counteract efforts to establish contacts between the generations and between different groups of society.

Many students also feel a need to engage in working life, to take responsibility for themselves, and to participate in decisions affecting their own group. In such cases, the long coherent period of education can have less favourable consequences to their motivation to study.

To sum up, the Commission finds that the investment of new educational resources exclusively or mainly in higher education directly linked with the regular schools would not promote the educational objectives in an optimum manner. U 68 recommends that planning be directed at the development of an educational organisation which will stimulate recurrent studies, primarily after completion of the upper secondary school. In this way periods of study will alternate with periods of occupational activity. However, the Commission does not propose that such alternation be arranged in uniform manner for all types of education, or for all students within one and the same kind of education. The intention, rather, should be to offer every individual a suitable pattern of education.

The individual's use of the educational system is influenced by a number of factors. The development of recurrent education will involve measures in many different fields, mostly in the form of gradual changes within a long-term perspective. U 68 thus stresses that recurrent education is not a reform that can be introduced at a given moment. It is rather a long-term guideline, and modifications must be made gradually as experience is acquired. The following are the essential fields in which action should be taken to promote recurrent education, according to the Commission.

Organisation of the upper secondary school

To permit a real choice, on the conclusion of the upper secondary school, between continued studies and work, every line of study at the upper secondary school should in principle prepare pupils both for further studies and for gainful employment to a greater extent than is now the case. However, the Commission considers it natural that such a reform be introduced only when sufficient experience has been gained from the upper secondary school introduced as from the academic year 1971/72. In the shorter term, the same objectives should be furthered by reducing the number of students on those upper secondary lines that do not prepare pupils for an occupation (see Chapter 2).

The organisation and capacity of higher studies
(See also Chapters 2 and 3)

U 68 proposes the following guidelines for the gradual change of post-secondary studies in the direction of recurrent education.

- A marked increase in the number of places on single courses. The latter should be restructured with a view to the needs of, among others, those already occupationally active.
- The development of shorter occupationally geared educational programmes on which further training can be based.
- The development of new educational programmes designed for those occupationally active. Such programmes can have the same goals as existing ones (e.g. the training of nurses and similar personnel as doctors) or lack any counterpart in the present system (e.g. short-cycle technical programmes).
- The development of terminal stages on the longer educational programmes, where this is suitable in view of labour market conditions. In this way, it is possible to create alternative routes of recurrent study.

Rules on qualification and selection (See also Chapter 5)

U 68 proposes that the number of students accepted for higher education be limited by annual decisions of Parliament. In accordance with Parliament's decision following Government Bill 1972:84 on the Qualifying Level of the Upper Secondary School, experience of working life shall be credited when selecting students, in addition to formal schooling. Also, admission shall be so designed that applicants with different kinds of qualifying background, including adults with occupational experience, are offered real opportunities to study. The Qualification Committee, appointed in 1972, is to propose a system for selection and admission to higher education.

The location and distribution of higher education (See also Chapter 4)

With recurrent education, higher education will appeal to a considerably greater extent than at present to people who are tied by their occupatio-

nal activities or families to a specific place, or its vicinity. U 68 proposes that the permanent higher education organisation be expanded in one or more places in a total of 19 higher educational areas, and that forms of distribution be developed that can further decentralise the supply of such education.

Information and outreach activities

If recurrent education is to have the desired effect in achieving a more even distribution of educational resources among individuals, it has to be supported by individualised and group information and outreach activities. Educational and vocational guidance should be reviewed in the light of the altered relationships between education and working life that are the purpose of recurrent education.

The financing of studies

The way in which studies are financed has an important bearing on the propensity of the individual to design his studies on a recurrent basis. As a rule, the financial support available today can be judged inadequate for persons who have been occupationally active for a number of years and who have had, by family or other commitments, acquired large running costs. It is thus no stimulation to recurrent education on a full-time basis.

The changes to the system of financial support for studies required by recurrent education lie within the scope of the Committee for Economic Study Assistance to Adults (SVUX). In the opinion of U 68, practical experiments on a limited scale should be made to acquire experience of support differentiated with regard to previous occupational activities, with a view to stimulating recurrent education. SVUX should be charged to draft proposals on experiments of this kind.

Measures on the labour market

In the opinion of U 68, recurrent education on a more systematised basis will have a vitalizing effect on both the educational system and the labour market. It can also be stimulated by measures in both these sectors. Since the number of transitions between training and gainful employment can be expected to increase, recurrent education will necessitate greatly increased resources for employment services. Also, information to employers is needed on the educational background and career plans of new categories of job applicants. Another question that arises is that of security of employment during absence for studies. In the long run, recurrent education can have important consequences for the organisation of work, and the distribution of responsibility at the place of work. Such changes as make new demands in respect of qualifications will also help stimulate recurrent education.

2 Number of students in higher education

2.1 *Background*

In the last twenty-five years the number of students in higher education has risen very rapidly in Sweden and comparable countries. Numbers of students enrolled and present at Swedish universities and certain colleges from 1940 are shown in Table 1.

Table 1. Net number of newly enrolled students and students present at universities and certain colleges.

Year	Net no. newly enrolled students	No. of students present
1940/41	2 000	11 000
1950/51	3 500	17 000
1960/61	8 000	37 000
1970/71	26 000	125 000

Other education designed for adults has also expanded very rapidly. Table 2 collates figures on numbers of students on labour market training, on the winter courses arranged by Folk High Schools, and studying with the educational associations. Municipal adult education – the current regulations on which came into force 1 July 1968 – noted some 160 000 participants in the academic year 1971/72. The figures on attendance in Tables 1 and 2 are not directly comparable, since those

Table 2. Number of students in certain adult education.

Year	Labour market training	Winter courses of Folk High Schools	Studies with educational associations [1]
1950/51	..	..	350 000
1955/56	..	..	550 000
1960/61	18 000	10 000	800 000
1965/66	46 000	11 000	1 200 000
1970/71	115 000	14 000	1 600 000

[1] Double-counting of individual students occurs.

attending universities and colleges are mainly full-time students on at least a one year programme, while adult education consists to a greater extent of shorter courses and part-time studies.

An essential factor underlying the expansion of higher education is development at the upper secondary level. In 1950, the number of pupils starting upper secondary instruction that would confer qualification for university and college studies was approx. 7 000; by 1970 the figure was approx. 33 000. The present capacity of the upper secondary school, some 100 000 admission places, corresponds to over ninety percent of an annual cohort of 16-year-olds. With Parliament's decision-in-principle in 1972 on the formal qualification to be conferred by the upper secondary school, roughly half of an annual cohort will acquire general qualification for higher education from their upper secondary studies, while the others who have undergone some of the two-year upper secondary lines will be able to achieve such qualification by supplementing their knowledge of Swedish and English.

Up to and including the academic year 1969/70, the very rapid expansion noted in higher education had its emphasis on the university faculties for social sciences, the humanities, and mathematical and natural sciences. During the early years of this decade, the demand of students for post-secondary education has stagnated, and been directed more than previously to educational programmes outside the traditional university and college sector, e.g. training as class teachers, nurses and social workers. The flow to the free faculties (i.e. to studies in theology, the law, the humanities, social sciences, and mathematical and natural sciences) has declined. Within the upper secondary school, the trend is towards a decreased interest in traditional university-preparative education, and a greater demand for more short-term vocational training.

2.2 *Forecasts and other bases for the proposals*

A calculation on outflow

The Forecasting Institute of the Central Bureau of Statistics has compiled an extensive basis for U 68's deliberations and proposals in the form of calculations on outflow and manpower needs.

The object of the calculation on outflow has been to illustrate flows of students within the educational system and the outflow on to the labour market, assuming a system that is in the main unchanged. Calculations assume that the Parliamentary decision on extended admission to higher studies will be implemented as from 1976/77.

Calculations are based on a great number of assumptions, all surrounded by greater or lesser margins of uncertainty. Even minor variations in each of these assumptions could conceivably interact in such a way as to affect results very considerably. To illustrate this circumstance, calculations have been made in two versions, each with a different set of assumptions. In the lower alternative, the flow to higher education is assumed to remain roughly at the 1972/73 level. With the higher alternative, the flow is assumed to lie rather at the 1969 and 1970 levels.

Table 3. The flow to educational programmes in higher education according to the two alternatives calculated (A and B).

		1965/66	1971/72	1975/76	1976/77	1979/80
Total no.	A	30 300[1]	36 600	38 200	44 300	44 800
of places	B		36 600	35 200	37 400	35 800
Of which						
first-time	A	27 300[1]	32 200	33 600	39 500	40 000
enrolment	B		32 200	30 700	32 700	31 000
Of which at						
free university	A	14 500[1]	12 500	12 800	18 600	19 100
faculties	B		12 500	9 800	11 700	10 100

[1] Includes also persons studying individual subjects.

The Forecasting Institute's calculation on outflow is *not* a forecast of probable future development. The intention, rather, is to illustrate the consequences of certain assumptions. One must reckon, for instance, with development being influenced by such decisions as may be made on the basis of U 68's proposals. Even before then, however, development in the educational system and on the labour market may differ from what is assumed.

Table 3 gives the results of calculations on the flow to higher education with the higher (A) and the lower (B) alternative. One notes that the calculation differs from the proposals of U 68 in, for instance, the assumption that a sector of higher education, namely the free faculties, will still not be subject to a numerus clausus (cf. Chapter 5). The table gives the number of places for beginners. In the case of the free faculties, this has been estimated by the number of first-time enrolments. In that one must reckon with a certain transfer between different kinds of education, the total number of first-time higher education enrolments will be less than the number of places for beginners.

Students not intending to take a degree comprise a fairly high proportion (at the moment some ten thousand) of those newly enrolling at philosophical faculties of universities. Such students are not included in the figures in Table 3, other than in respect of 1965/66.

The results of calculations on outflow from the educational system on to the labour market during the three five-year periods 1965/70, 1970/75 and 1975/80 are given in Table 4. The different educational programmes have here been classified into occupational training sectors. Some of those studying at the philosophical faculties of universities have here been grouped under the heading "higher education without stated occupational aims". However, persons undergoing training as e.g. subject teachers, librarians, economists and Masters of Political Sciences have been assigned to the corresponding occupational training sector. – For the sub-division of the upper secondary school into occupational training sectors, see Section 2.3.

Table 4. Outflow of graduates onto the labour market during the three five-year periods 1965/70, 1970/75 and 1975/80 according to the two alternatives calculated.

		1965/70	1970/75	1975/80
Complete higher education	A	*75 600*	*128 700*	*133 100*
	B		*125 100*	*127 000*
Technological training	A	11 100	15 400	19 700
	B		15 000	18 900
Administrative and economic training	A	12 700	30 600	30 600
	B		29 600	28 800
Training in medicine, social work etc.	A	15 900	24 300	27 800
	B		24 300	27 800
Teacher training	A	27 000	35 800	36 600
	B		35 800	36 600
Training for cultural and informative occupations	A	3 700	5 300	6 100
	B		5 300	6 100
Higher education without stated occupational aims	A	5 200	17 300	12 300
	B		15 100	8 800
Higher education in single courses	A	*16 400*	*24 600*	*30 200*
	B		*26 800*	*17 600*
Upper secondary education	A	*217 700*	*272 500*	*250 000*
	B		*277 100*	*278 000*
Technical training	A	106 000	118 500	122 200
	B		119 500	136 100
Administrative and economic training	A	52 000	60 200	57 200
	B		61 500	65 400
Training in nursing, social work etc.	A	36 000	43 500	37 600
	B		43 600	39 000
Upper secondary education without stated vocational aims	A	23 700	50 300	33 000
	B		52 500	38 200
9-year comprehensive school[1]	A	*157 400*	*124 300*	*119 000*
	B		*126 400*	*121 400*
Total	A	467 100	550 100	532 300
	B		555 400	544 700

[1] Before 1972 also including primary schools.

Calculation of manpower needs

The calculation on outflow has its counterpart in a calculation on manpower needs. The latter is so structured as for its results to be

Table 5. Number of gainfully employed in major economic sectors 1960–80 (round figures).

Economic sector	1960	1970	1980
Agriculture and forestry etc.	514 000	312 000	168 000
Manufacturing	1 129 000	1 126 000	1 031 000
Building and construction etc.	295 000	327 000	332 000
Communications	242 000	250 000	250 000
Trade	418 000	468 000	453 000
Private services	309 000	350 000	359 000
Public administration and services	405 000	695 000	1 002 000
Total	3 311 000	3 528 000	3 596 000

Table 6. Number of gainfully employed in major occupational groups 1960–80 (round figures).

Occupational group	1960	1970	1980
Technical work	168 000	252 000	331 000
Medical care	108 000	193 000	285 000
Educational work	81 000	124 000	166 000
Other natural scientific, social scientific, humanistic and military work	80 000	122 000	173 000
Administrative work	69 000	88 000	109 000
Office work	275 000	370 000	423 000
Commercial work	317 000	326 000	287 000
Agriculture and forestry	505 000	306 000	166 000
Communications	226 000	217 000	201 000
Manufacturing	1 165 000	1 147 000	1 032 000
Services	316 000	381 000	422 000
Total	3 311 000	3 528 000	3 596 000

comparable with those of the calculation on outflow.

The calculation on needs is based on material from the 1970 Long-term Planning Committee, from which a forecast has been taken on the total labour force and its division into economic sectors during the Seventies. Table 5 gives the number of gainfully employed in major economic sectors.

On the basis, mainly, of information on occupation in the 1960 and 1965 Population Censuses, the number of gainfully employed has been extrapolated to 1980. Table 6 shows the results of these calculations, in major occupational sectors.

Calculations have then been made on the total need for new recruitment in different occupations over various 5-years periods, and the proportion of new recruitment that is expected to be met from the educational system. The results of such calculations are summarised in Table 7.

Table 7. The need for new recruitment from the educational system.

Occupational group	1960/65	1965/70	1970/75	1975/80
Technical work	31 000	43 000	52 000	53 000
Medical care	33 000	50 000	59 000	71 000
Educational work	23 000	32 000	38 000	40 000
Other natural scientific, social scientific, humanistic and military	16 000	22 000	27 000	33 000
Administrative work	2 000	4 000	6 000	7 000
Office work	87 000	85 000	86 000	90 000
Commercial work	44 000	37 000	33 000	26 000
Agriculture and forestry	25 000	27 000	17 000	10 000
Communications	27 000	28 000	27 000	22 000
Manufacturing	149 000	110 000	109 000	112 000
Services	47 000	40 000	43 000	43 000
Total	485 000	479 000	497 000	506 000

Table 8. Needs for new recruitment from the educational system by education.

	1965/70	1970/75	1975/80
Complete higher education	*90 000*	*112 000*	*129 000*
Technological training	12 000	15 000	16 000
Administrative and economic training	19 000	25 000	32 000
Training in medicine, social work etc	20 000	25 000	29 000
Teacher training	28 000	34 000	36 000
Training for cultural and informative occupations	4 000	5 000	5 000
Higher education without stated occupational aims	4 000	5 000	6 000
Higher education in single courses	*4 000*	*4 000*	*4 000*
Upper secondary education	*277 000*	*302 000*	*322 000*
Technical training	127 000	141 000	150 000
Administrative and economic training	84 000	86 000	85 000
Training in nursing, social work etc	37 000	45 000	55 000
Upper secondary education without stated vocational aims	29 000	31 000	31 000
9-year comprehensive school [1]	*108 000*	*78 000*	*51 000*
Total	479 000	497 000	506 000

[1] Before 1972 also including primary schools.

Finally, the estimated need for new recruitment from the educational system has been distributed according to education. For each occupation, an assessment has been made of the suitable distribution of such recruitment over different types of training. For results, see Table 8.

A comparison between Tables 4 and 8 shows the calculated total supply from the educational system for the 5-year period 1975/80 to exceed the calculated need for the same period by approx. 40 000 persons. This is due to imperfect technical coordination between the two calculations, but the discrepancy can be ignored in interpreting results in respect of higher education. The greater part of the discrepancy is ascribable to the upper secondary school and 9-year comprehensive. It can be interpreted as indicating that the calculation on needs has slightly underestimated the need for persons trained at this level. In the Forecasting Institute's continuous review of the forecasting material, the assumptions used in calculating outflow and needs will be coordinated in this respect.

A comparison between the calculations on outflow and needs

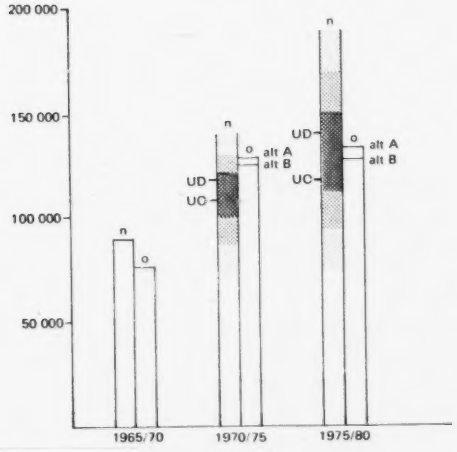
In principle, the calculations on outflow and needs are designed to be directly comparable. In using them, however, as a basis for educational planning, it is necessary to remember the considerable uncertainty that surrounds calculations of this kind. A good illustration of this is provided by the calculations on inflow and graduation made repeatedly during the Fifties and Sixties, which have regularly deviated sharply from actual outcome. Such calculations necessarily rest on a very large number of assumptions in respect of factors that are sometimes imperfectly known during the preceding period and can usually vary considerably during the

period of forecast. Even minor deviations from the assumptions made on a large number of these factors can greatly affect the results of calculations.

The calculation on manpower needs suffers from similar uncertainties. This calculation is based, among other things, on assessments of sector-by-sector development made by the 1970 Long-term Planning Committee and information on employment in different occupations obtained from the 1960 and 1965 Population Censuses. In addition to this, we have assessments made of the educational background of the groups recruited for the first time to different occupations. It is obvious that assumptions made on this basis contain a considerable margin of uncertainty.

In Figure 1, the outflow calculation's two alternatives in respect of complete higher education are compared with the calculation on manpower needs. Two variants of the latter are given. The one (the S-variant) relates to the calculated requirement corresponding to an assumption that every *service-producing sector* will develop during the Seventies as rapidly as in the individually more expansive of the two periods 1960/65 and 1965/70. In the second variant (the G-variant), it has been assumed instead that each *goods-producing sector* will develop at the same rate as in the more expansive half of the Sixties. In addition, the consequence has been indicated of an assumption of unchanged proportions of trained persons in new recruitment (UO) compared with the period 1965/70, and a doubled change in these proportions (UD) compared with the assumptions made.

The variations given in Figure 1 cannot be regarded as the probable limits of conceivable variations in the outflow and need for



n = needs for new recruitment
o = outflow
UO = variations in respect of assumptions
UD = on proportions of trained persons in new recruitment.

Figure 1. Calculated need for new recruitment and outflow: complete higher education.

persons with higher education. Such limits can hardly be given in a meaningful manner. In U 68's opinion, however, the figure illustrates very clearly the caution necessary in interpreting forecasts for the purposes of educational planning.

It is also important to note that the forecasts, although they stretch as far ahead in time as was judged possible on the basis of the material available, relate to labour market conditions during a period that may be passed by the time U 68's proposals take effect. In the opinion of U 68 (see Chapter 8), the bulk of its proposals should be gradually implemented as from the fiscal year 1976/77. With most types of higher education, those trained in a higher education organisation designed in the manner proposed will be coming on the labour market as from about 1980.

A central question is thus what conclusions can be drawn from the forecasting material available in respect of the 1980's. What has already been said of the margins of uncertainty involved naturally suggests extreme caution in drawing such conclusions. U 68 considers, however, that – taking the group with a *complete higher education* as a whole – the material rather suggests a tendency for shortages to appear on the labour market in the early Eighties, provided the flow of students to universities and colleges maintains the level given by the lower alternative calculation on outflow. Obviously, the situation for different individual categories of graduates can vary considerably, and the balance between educational programmes of different structure and character is a central problem for the Commission. In drafting its proposals on the capacity of higher education facilities, U 68 has chosen to work from an estimated annual increase of the total need for new recruitment from the higher education system during the Eighties of some two percent. The need for new recruitment during the period 1965–1980 arrived at in the calculation on manpower needs corresponds to an annual increase by between three and four percent.

Other base material

The majority of the special studies that have been published earlier by U 68 provide information incorporated in the Commission's deliberations on the future capacity of higher education. This applies, for instance, to the study by Bengtsson and Gesser et al. on "Val av utbildning och yrke" (Choice of education and vocation, SOU 1971:61), and Rydh and Österberg's "An empirical study of adjustment mechanisms on the labour market for persons with long-term education" in "Högre utbildning och arbetsmarknad" (Higher education and the labour market, SOU 1971:62). Opinion within the Commission has been divided on the possibility of applying the kind of results presented by Magnusson and Tychsen in "Socio-economic calculations for long-term education" (see "Högre utbildning – regional rekrytering och samhällsekonomiska kalkyler", Higher education – regional recruitment and calculations relating to national economy, SOU 1972:23).

2.3 *Capacity of the upper secondary school*

The planning of higher education has obvious links with the upper secondary school: at present, the majority of students in higher education come more or less directly from the upper secondary school, and it is impossible when considering the relationship between education and the labour market to study higher education in isolation from other educational levels. Deliberations of this kind must cover the educational system as a whole. The Commission's proposals thus also incorporate guidelines for quantitative planning of the upper secondary school. As apparent from Section 1.4, the Commission has also – from the premise of its approach to recurrent education – considered the structure of this school. As already mentioned, U 68 considers it desirable in the long term that all lines of the upper secondary school should prepare students both for an occupation and for further studies.

For the purposes of its discussion of the future number of upper secondary students, the Commission, as indicated by Section 2.2, has divided this school into three occupational training sectors. The majority of upper secondary lines can be classified into these, as follows:

Technical training

2-year clothing manufacture line
2-year building and construction line
2-year electrotechnical and telecommunications line
2-year motor engineering line
2-year agricultural line
2-year food manufacturing line
2-year processing techniques line
2-year forestry line
2-year technical line
4-year technical line
2-year wood industry line
2-year work shop line

Administrative and economic training

2-year distribution and clerical line
2-year economics line
3-year economics line

Training in nursing, social work etc.

2-year consumer line
2-year music line
2-year nursing line

The following four lines have been judged to display less marked associations to specific vocational fields.

3-year liberal arts line
3-year natural sciences line
3-year social sciences line
2-year social line
These are assigned in this context to a group without stated vocational aims.

U 68, which in the light of its discussion on recurrent education rejects for the planning period covered the idea of a compulsory upper secondary school, considers it an important aim to be able to offer all young people places at such a school. The Commission assumes that, in the latter Seventies, some ten percent of an annual cohort will enter the labour market immediately on conclusion of the 9-year compulsory comprehensive, and subsequently not seek other training in the upper secondary school than, possibly, brief special courses.

As regards the distribution of students over lines, U 68 proposes that the proportion entering lines without a stated vocational objective be reduced from the present approx. 30 percent to approx. 25 percent of admission capacity. Such a change is well in line with present trends as regards the demand by students. The object is to contribute to a less fixed connection between choice of education in the upper secondary school and subsequent studies: it is intended that a greater proportion than at present of students in higher education should come from the vocational lines of the upper secondary school, in many cases after a certain intervening period of occupational activity.

As regards the distribution over occupational training sectors, the Commission in view of its assessment of labour market conditions and other factors (see Section 2.2), proposes an increase in the technical sector and that aimed at nursing and allied activities as shown in Table 9.

Table 9. Present breakdown of the admission capacity of the upper secondary school and that proposed by U 68.

Occupational training sector	Distribution 1972/73 percent		Distribution at the end of the Seventies (Proposal) percent (approx)	
Technical training	34	70	38	75
Administrative and economic traning	22		22	
Training in nursing, social work etc.	14		15	
Without vocational aims	30		25	
Total	100		100	

2.4 *The capacity of higher education*

Quantitative educational planning should aim at meeting both the needs or the desires of individuals for education, and society's need of trained labour. The balance between these requirements is an essential factor in planning.

Our modern community has a very considerable need of trained

persons. This need relates both to a high general level of education and occupation-specific training. The difficulties involved in manpower forecasting and the problems encountered even in determining the concept of "need" make it very hazardous to indicate in any detail the total scale of this need. At least from the standpoint of more short-term needs, the structure and content of education will be planning factors at least as important as length of training and total number trained. When students are distributed over different sectors of higher education, one of the guiding factors should therefore be the chances of obtaining work in sectors where their training will be utilised. One must also bear in mind the targets set for the development of specific sectors of the community. The more all-round use to which higher education can be put, the greater difficulties will be encountered in setting total dimensions for higher education on the basis of manpower needs.

Given certain conditions, the need of individuals for education will be reflected in their demand for education. Continued efforts should be made to eliminate economic, social and regional obstacles, which can otherwise prevent the satisfaction of individual educational needs.

Obviously, the resources allocated to higher education must be balanced against other needs of society. In this context, attention must be paid to both the aims set above for planning: to meet the needs or desires of individuals for higher education, and society's needs for graduates. In view, among other things, of the necessity for educational efforts on behalf of adults who have undergone only a brief schooling, we must expect the free play for the expansion of higher education to be limited for the next decade.

The Commission's proposals relate both to the admission capacity of educational programmes or groups of programmes, and to the number of persons currently attending single courses. Let us first consider the former aspect of the proposals.

Students on educational programmes

Figure 2 illustrates by curves A and B the number of places for newly enrolled students in educational programmes as indicated by the Forecasting Institute's calculation on outflow (see Section 2.2).

In the light of the arguments quoted, U 68 proposes that admission to higher education programmes be established by annual decisions, with due consideration to, among other factors, the demand of individuals for education and assessments of the future labour market situation. As a framework for planning, the Commission proposes two planning limits between which annual admission should lie. The lower limit corresponds to a total intake 1976/77 of approx. 37 000 students, with a subsequent annual increase by two percent throughout the planning period. The upper limit corresponds to an intake 1976/77 of approx. 42 000 students, with a subsequent annual increase by two percent. Figure 2 gives an example of how admission figures could develop by successive decisions of this kind.

As to the distribution of admission to general educational

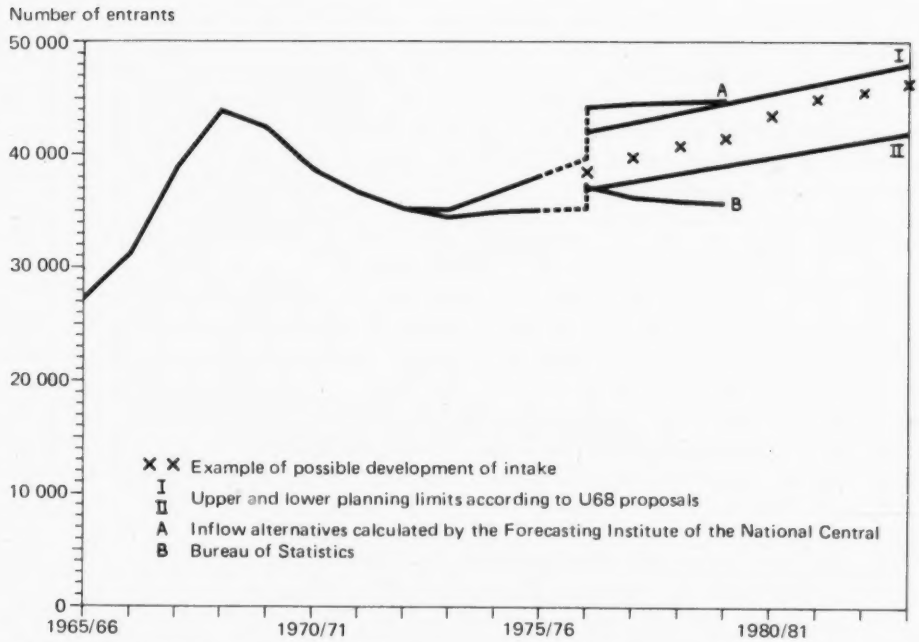


Figure 2. Number of places for admission to educational programmes of higher education.

Table 10. Admission capacity of educational programmes, by occupational training sector. Round numbers.
U = Upper planning limit
L = Lower planning limit

Sector		1971/72	1976/77	1983/84
Technological training	U	5 300[1]	7 300	10 000
	L		6 700	9 000
Administrative and economic training	U	6 500[1]	8 800	10 000
	L		7 700	9 000
Training in medicine, social work etc.	U	7 500	8 800	10 500
	L		8 400	9 500
Teacher training	U	9 500	9 900	10 000
	L		9 400	9 000
Training for cultural and informative occupations	U	1 000[1]	2 000	3 000
	L		1 900	2 500
Local and individual educational programmes	U	–	5 000	4 500
	L		3 500	3 500
Without stated occupational aims	U	7 000[1]	–	–
	L			
Total	U	37 000	42 000	48 000
	L		37 000	42 000

[1] The present capacity within the training sectors for administrative and economic occupations, and for cultural and informative occupations, lies partly within the free faculties, and only an approximative estimate is possible. Except as regards the training of subject teachers, training at the faculties of mathematics and natural sciences that prepares students for e.g. technical functions has been assigned to "training without stated occupational aims".

programmes over occupational training sectors, the Commission proposes that Table 10 be followed at the upper and lower limits. The capacity for local and individual educational programmes is given separately in the table.

Single courses

Not all students in higher education intend to follow instruction in a complete educational programme. With the present organisation, it is difficult to indicate exactly the scale of demand for parts of educational programmes. However, the demand does seem to be growing. Of those enrolled in the autumn of 1969 for studies at philosophical faculties some 11 percent (approx. 2 000 persons) have during the period to the end of the spring term 1972 been registered only for one term's studies. Some 16 percent (approx. 3 000 persons) had by then been registered for two terms' studies. According to the Central Bureau of Statistics, less than half of those enrolling at a philosophical faculty in the autumn term 1972 intended to take a degree. Of the newly enrolled students over 24 years of age, only a quarter were aiming at a degree.

In a study "University studies without a degree" (in "Högre utbildning och arbetsmarknad", Higher education and the labour market, SOU 1971:62) carried out for U 68, Attehag and Svanfeldt have studied the goals of two groups of students not taking degrees. It emerges that students' intentions are highly varied. An important group is those desiring a supplement to their previous upper secondary or post-secondary occupational training.

Experiments with expanded admission to studies at a philosophical faculty and to the training of social workers and public administrators started in 1969. In total, the number of students involved in experimental activities with expanded admission to philosophical faculties during the three first years has been estimated at approx. 4 600. In a special study on these experiments during the first three terms, it emerged that almost half were studying at Stockholm University. The largest age group is 25–30, and the most common subject fields are pedagogics, business economics, psychology and sociology.

Those undergoing external university training (university circles and decentralised training) usually have a limited, often occupationally geared goal. The number of participants in university circles 1971/72 was approx. 25 000, of whom the majority were gainfully employed (full-time or part-time). Some 1 000 students were participating in decentralised university training under the auspices of the Office of the Chancellor of the Universities.

U 68 sees studies in single courses as a very important aspect of higher education. A rapid increase in the resources for such education could perhaps prove the fastest-acting measure to promote recurrent education. The organisation of training in single courses within a higher educational area will be an important task for the local Board of Higher Education (see Chapter 6). When planning education, attention should be paid to the educational needs of persons who are tied to certain specific hours or

places by their employment, residence etc.

Studies in single courses can often be occupationally geared, but this type of educational supply can also help more generally to meet the demand for education. Its content should therefore not be limited to certain specific types of instruction. It is impossible, in a long-term plan, to specify the main direction for instruction in single courses. However, the choice of structure and capacity for different courses demands careful planning both locally and centrally.

U 68 proposes that planning should aim at a capacity for single courses corresponding to approx. 20 000 full-time students by 1976/77. If, for instance, half this capacity were used by full-time students and half by half-time students, the total number of students would thus be approx. 30 000. Obviously, planning for subsequent years must allow for the development of needs in respect of such instruction. The Commission reckons with a rapid increase in the demand for instruction in single courses. It proposes that planning depart from an annual capacity increase on single courses by approx. 10 percent. This means a total of approx. 35 000 currently participating in the academic year 1983/84 (in full-time equivalents).

Current attendance figures

Implementation of the Commission's proposals on capacity will have only a gradual effect on current attendance figures in basic higher education. By the academic year 1971/72, the total attendance figure is estimated to correspond to between 140 000 and 145 000 full-time students on educational programmes and in single courses. By 1983/84, the number of students on *educational programmes* is expected to be something over 150 000 if admission has for several years lain at the upper planning limit suggested by the Commission, and approx. 135 000 if admission has lain at the lower limit. On top of this we have those attending single courses, who are expected to correspond to approx. 35 000 full-time students. Realisation of the Commission's proposals can thus be expected to involve a total current attendance in basic higher education of between 170 000 and 190 000 in the academic year 1983/84.

3 The organisation of studies

3.1. *Background*

Studies within the field classified by U 68 as higher education are organised at present in varied ways. The type of organisation covering the great majority of students is that of the philosophical faculties, which was established by decision of Parliament in 1969. Certain higher education, mainly municipal education, is currently integrated with the upper secondary school and studies, consequently, organised according to the Ordinance on Schools. Finally, there are many types of clearly occupationally oriented training with a permanent structure, regulated by special Orders.

As a rule, higher education programmes are built up of courses; however, the way in which courses are defined and their content regulated varies. At the philosophical faculties, courses are combined into study courses, of which the students can compose educational programmes in accordance with certain rules. A certain freedom for the student himself to influence the content of his studies is incorporated also in other types of higher education. In many cases, however, the content of instruction is uniform for all students. Where real options exist, the manner in which studies are organised varies. Discrepancies exist also in respect of credit systems and degrees etc.

Some types of education prepare students for specific occupations, and others for broad occupational sectors; others, again, are related only fairly vaguely to an occupation. The manner in which occupational preparation is given varies.

U 68's proposal as regards the organisation of studies in basic higher education assumes that all higher education is to prepare students for future occupational activities. In the opinion of the Commission, it is also necessary to achieve a more uniform organisation as regards the structure of courses, and their evaluation. In this way, educational planning will be able more pliably to combine existing educational resources, and adapt higher education to different requirements. A more uniform organisation of studies should also make it easier for both potential students and employers to acquire an overall picture of higher education.

3.2 *Educational programmes and courses*

U 68 proposes that basic higher education should normally be organised into *educational programmes*, which can be *general*, *local* or *individual*. It is proposed that general programmes of education be established by the Government, while local and individual educational programmes be set up by the local higher education authorities, in the case of an individual programme after application by the student.

A *general* educational programmes is an education of varying length aimed at one or more occupational fields. Its emphasis is in a certain base field of education, and it is designed either as a fixed combination of courses or as basic education in that field, followed by courses in one or more principal subjects, plus further courses of importance for the intended area of occupational activity. In the latter case, a given training in a base field can be used for different occupations, by combination with suitable courses. The educational programmes in question can then be divided into different *variants*.

The proposal on local and individual educational programmes is designed to meet needs that are not covered by the general programmes. They should constitute a field for local and individual initiative, and offer valuable experience for the creation of new general programmes. A *local* educational programme, the contents and organisation of which shall be decided entirely by the local higher education authorities, should normally be designed to meet the same requirements as a general programme. By an *individual* educational programme is meant an education aimed at a specific sphere of activity, and with a specific main base content, in which the courses incorporated, and the order in which they are taken, are determined by the student.

U 68 proposes that an educational programme should as a rule be constructed of *courses* giving credit points corresponding to estimated study time, one year of study equal to 40 points. In certain cases, it can be suitable to group such courses in larger units, for which the Commission uses the term *study course* (following the present terminology of the philosophical faculties).

In certain cases, an educational programme or variant can be followed in different ways. Each of these is termed a *route*. The student's choice of study route means using the resources of higher education in a specific way. There is no need to establish one's entire study route on commencing one's higher education, unless the educational programme chosen is a fixed combination of courses. By the terms of the Commission's proposals, however, the student is to report an *initial programme* of study indicating the structure of his studies during at least the first three terms.

The actual organisation of studies is in a process of continuous change and development. U 68, however, has drafted a proposal for educational programmes, designed along the general principles it suggests; in the Commission's view, it should be possible to implement this draft organisation when the measures arising from U 68's proposals are implemented, i. e. 1976/77 (see Appendix 3). In certain cases, however,

current development work may warrant changes in the draft system of educational programmes before this time.

U 68's draft educational programmes mean a change in relation to the existing situation at, above all, the present philosophical faculties. The educational programmes at these do not always have a clear occupational relevancy. However, by the introduction of occupationally geared courses at the philosophical faculties, and by experiments with educational programmes combining courses at philosophical faculties and upper secondary school, procedures have been developed to make studies at these faculties more occupationally oriented. In the opinion of the Commission such arrangements could also in the future be utilised to develop new educational programmes, or variants, where this is suitable.

U 68 intends, in special reports, to present proposals on legal training, the training in social work and public administration, and certain short higher education programmes in the sector of medicine and social work, including the training of physiotherapists. For other higher education, U 68 offers an outline survey of current conditions and trends in the five occupational sectors.

3.3 *Marks and degrees*

As clear, for instance, from a pamphlet published by the Office of the Chancellor of the Swedish Universities (UKÄ) in 1972 ("Betyg vid universitet och högskolor", Marks at universities and colleges), the principles for mark-setting vary within higher education.

The object of the more uniform organisation of studies proposed by U 68 is partly to facilitate combinations between courses. It is of importance in this context that a uniform system of evaluation be used to indicate both the length of studies (the points system) and their results. The Commission starts from the fact that graded scales of marks, or honours, are now used in practically all basic higher education. U 68 proposes that a single scale of marks should be applied in basic higher education with the marks Fail, Pass and Credit. For a given type of education, however, it should be possible to use only the marks Fail and Pass, in which case this would be indicated on the relevant certificate. In certain cases, e. g. in the training of artists, no marks are set. The Commission does not envisage any change in this respect.

The uniform organisation of studies envisaged also demands as uniform a documentation of completed studies as possible. In the opinion of the Commission, such documentation should relate – for students in educational programmes – to the programme, otherwise to courses. The Commission proposes that a person completing an educational programme or single course be given a certificate to this effect, stating the designation of the programme, the length of the education in question, the courses covered, and the marks awarded. It is not intended to use the term "degree", and the document should not contain titles associated with a basic higher education.

3.4 *The development of the organisation of studies*

The questions considered in sections 3.1–3 relate mainly to the system of rules that should apply for the organisation of studies in higher education, and the changes involved by this system of rules, e. g. in the organisation of studies at the present philosophical faculties.

In applying a more uniform system of rules, due consideration must naturally be paid to the varying premises of different types of higher education, and to different needs of working life. The practical design of the organisation must therefore vary from case to case.

As regards the ongoing development of the organisation, U 68 sees two main questions in a) the choice between recurrent and uninterrupted education, and b) the choice between various models of differentiation. The question of differentiation, which has dominated the discussion of how studies should be organised in the primary and secondary school, must be considered, in higher education, together with the effort to promote recurrent education. The desire that a student should not have to choose any more definitive occupational direction must be weighed against the need to introduce fairly early certain elements of vocational preparation.

The demand for breadth and general applicability that is met in an uninterrupted education by gradual specialisation from a broad base is satisfied, in recurrent education, by the combination of occupational experience and education. In the differentiation models based on recurrent education, a more general higher education can follow, for instance, specialised training at the upper secondary school and a certain period of occupational experience.

The consequences of recurrent education for the organisation of studies in higher education have been considered in Section 1.4. U 68 discusses various models of differentiation, and notes that several different models will exist also in the future. However, the Commission considers it desirable to avoid gearing higher education to a very specialised occupational objective from the very beginning. In certain cases, the necessary breadth can be achieved by several educational programmes having one or more courses in common.

If the educational target set is to be achieved, it is essential that studies within an educational programme be regarded as a unit. It is not, for instance, necessary that each individual course should have a clear occupational relevancy, even if this is often suitable. The important thing is that the combination of courses making up the programme should constitute a good preparation for future occupational activities. This means that courses must not be seen as isolated units. Particular measures must be considered for each educational programme to ensure internal coherency and an overall view of instruction. If such efforts are to succeed, it is of great importance that the planning and administrative organisation, at both the local and central level, should have satisfactory contacts with the occupational field corresponding to the programme.

3.5 *Short-cycle technical programmes*

U 68 considers it important that the supply of higher education be broadened to include educational programmes appealing primarily to categories of students that have not traditionally turned to universities and colleges.

In 1970, the Committee on Vocational Training presented its proposals on short-cycle technical programmes at higher education level, primarily for those who have undergone vocational training in upper secondary school and subsequently acquired experience of working life. In a supplementary directive, U 68 has been requested to draft proposals on experimental activities with such programmes with the emphasis on industrial occupations (above all in the engineering industry).

U 68's proposals on experimental activities are presented in a special report (SOU 1973:12). These proposals relate to training geared to the iron and steel industry, the clothing industry, the food industry, the paper and paperpulp industry, the wood industry, and the mechanical industry.

4 The location of higher education facilities

4.1 *Background*

Post-secondary educational facilities are located in a large number of different places throughout the country. Higher education and research within more than one faculty is provided in six cities (Stockholm, Uppsala, Linköping, Lund-Malmö, Gothenburg and Umeå). State higher education of other types (schools of librarianship, training colleges for pre-school teachers, schools of physical education, schools of education, schools of social work and public administration, and affiliated universities) is provided in sixteen more places (Södertälje, Solna, Norrköping, Jönköping, Växjö, Kalmar, Kristianstad, Borås, Karlstad, Örebro, Västerås, Falun, Gävle, Härnösand, Östersund and Luleå). County or municipal higher education facilities also exist in most of these places, plus certain others.

The majority of students in higher education are concentrated to five cities. Of the almost 145 000 students currently participating in basic higher education, some 120 000 are to be found in Stockholm, Uppsala, Lund-Malmö, Gothenburg and Umeå. In these places, there are further students in research training.

In spite of the large number of places with higher education in Sweden, the main part of the rapid expansion noted in the Fifties and Sixties was concentrated to a few areas. New facilities for basic studies plus research and research training have been assigned to Umeå and Linköping. Basic university training has also been assigned to Växjö, Karlstad and Örebro. During the Sixties, Örebro also acquired a school of social work and public administration, and a school of physical education. In conjunction with the 1968 reform in teacher training the number of places with training of class teachers decreased; schools of education now exist in 15 places.

In recent years, new facilities for higher education have been assigned outside the university cities. The conscious determination to spread education that was marked by the decision of Parliament in 1965 to assign higher education and research to Linköping, and by the creation of affiliated universities, has been continued with the assignment of higher

technological education and research to Luleå, the training for social work and public administration to Östersund, and the training of librarians to Borås.

4.2 *General considerations of the Commission*

As apparent from Section 2.4, the number of students currently undergoing basic higher education is expected to increase from 140 000–145 000 in 1971/72 to between 170 000 and 190 000 by the end of the Commission's planning period (1983/84). The increase by between 25 000 and 45 000 students present has provided the main framework for the Commission when considering the location of facilities.

The location of educational facilities should be decided on the basis partly of educational policy, partly of regional policy. It is impossible, however, strictly to distinguish between the two. An important point of contact is the labour market. In its work on the location of higher education facilities, U 68 has taken as its starting-point those questions which relate to educational planning proper, subsequently checking its deliberations against regional planning in general.

In its deliberations on this subject, the Commission has started from four different factors. These are:

- the proximity of educational facilities to the students
- the proximity of educational facilities to job opportunities
- contact between education and research
- the environment of higher education

Experience of the 9-year comprehensive and upper secondary schools shows that proximity to educational facilities decisively affects the choice of the individual between education and other activities, and between different types of education. In the case of higher education, such experience is confirmed by a study performed for the Commission by Holm and Häggström ("Regional recruitment to universities and colleges during the Sixties", in "Högre utbildning – regional rekrytering och samhällsekonomiska kalkyler", Higher education – regional recruitment and calculations relating to national economy, SOU 1972:23).

Holm and Häggström have studied changes in the recruitment pattern following the creation of Umeå University and affiliated universities (which include in the study also education at the philosophical faculty in Linköping). Their study shows that students go to a large extent to the nearest place at which some type of desirable education is available. Major discrepancies are reported in the relative frequency of students as between the areas in and around the big educational centres and the rest of Sweden. A considerable increase in the demand for higher education is reported in the areas neighbouring the affiliated universities. This increase has been aimed at the type of education offered at the affiliated universities, i. e. mainly studies at the faculties of the humanities and social sciences. The supply of courses at the affiliated universities has therefore influenced the demand.

The study demonstrates differences in sensitivity to distance between

different groups. Married persons, above all married women, and older persons are more tied to their place of residence than the unmarried and the young. There is no clear correlation between socioeconomic group and sensitivity to distance. However, the regional discrepancies that exist in breakdown by socioeconomic groups mean that the location of educational facilities has a bearing also on the social breakdown of recruitment to higher education.

The principle of proximity of education to the individual leads to the conclusion that educational supply should be spread to offer real educational opportunities to all. On the other hand, the supply of higher education at one place must not be so limited as to steer the educational choices of individuals in a one-sided manner.

The proximity of educational facilities to job opportunities affects the individual's choice of work on the conclusion of his education, and thus the supply of different areas with trained labour. The proportion of persons in the labour force who have undergone a long period of schooling is considerably greater in the major urban areas than in the rest of Sweden. Follow-up studies performed by the Central Bureau of Statistics show a clear concentration of recent university and college graduates to the vicinity of their place of study. In a study entitled "The mobility of persons with long-term training" published in "Högre utbildning och arbetsmarknad" (Higher education and the labour market, SOU 1971:62), Grahm, Sjöstrand and Wingård describe the mechanisms that are at play in this context. Traditionally, university and college studies have started at a time when the individual's geographical mobility is greatest, after his detachment from the parental home but before building a family of his own. Mobility is greatly decreased even by the time such studies terminate. Young people from throughout the country have made their way to university and college districts, and subsequently remained professionally active in these or neighbouring areas.

These circumstances can be illustrated by regional differences in the supply of persons trained in different occupational training sectors. A very marked shortage of physicians has existed away from the university districts while the supply within these districts has been fairly good. Basic training for nurses is provided in the majority of counties, and regional differences in the labour market situation of nurses are negligible. Physiotherapists have so far been trained only in Stockholm, Lund and Gothenburg, and there is a serious shortage of physiotherapists at a distance from these places. Corresponding differences exist between subject teachers and class teachers: during the teacher shortage of the Fifties and Sixties, great geographical differences existed in respect of subject teachers, while the supply of class teachers – whose training is considerably more dispersed – was fairly evenly distributed throughout the country.

The question of the relationship between training and research has been observed in previous deliberations on the location of facilities for higher education, particularly in the 1965 decision on the creation of affiliated universities. Experience of the affiliated universities has been on the whole good, even if their teaching staff have in some

cases felt a lack of contact with research. In the view of U 68, the desirable and necessary contact between basic education and research is seldom of such a nature that the two activities must be assigned to the same area or town. Joint establishment can probably be dispensed with for the short-cycle training that will be the focus of expansion of higher education if the Commission's proposals are adopted. For such training, the need of direct contact with occupational activities seems to have been a more essential factor even in previous decisions on location. In the case of other basic higher education, research contacts can, in the Commission's opinion, be retained and developed by a suitable organisation of educational planning and implementation, and by the choice of suitable teaching aids. When training and research facilities are assigned to different places, the travelling distance between them is usually limited and not a major obstacle to the desired contacts.

In recent years, attention has been paid to the environment of higher education. The rapid expansion of Sweden's universities has been made possible by, among other things, the large-scale construction of student housing. The need for internal links and contacts has led also to premises for teaching and research being established in joint centres. With this, the risk of universities and colleges becoming isolated from the community at large has increased. A properly functioning higher education facility presupposes also an internal organisation that gives students and staff a possibility of seeing their activities as meaningful, and a natural opportunity to develop contacts in coherent study groups. Often, such organisations are to be more easily developed in smaller units.

The Commission's conclusion from its deliberations concerning the proximity of educational facilities to students and the labour market, the relationships between training and research, and questions of environment, is that the future expansion of permanent resources for higher education should take place outside the districts now offering a comparatively complete range of higher education (Stockholm, Uppsala, Lund-Malmö, Gothenburg and Umeå). This, however, should not prevent a continuous differentiation of basic training in these places within an essentially unchanged number of students. The Commission further assumes that new resources for research and research training will in the immediate future be invested mainly in cities that already have an organisation of this kind.

In view of the limited growth in higher education as a whole that is assumed by the Commission during the planning period and the urgency of achieving reasonably broad supply of higher education in the university and college towns, U 68 proposes that the expansion of permanent resources for higher education be limited essentially to places that already have such resources. The selection of places at which the Commission arrives (see Section 4.3) is also compatible with the guidelines for regional policy established by Parliamentary decision in the autumn of 1972.

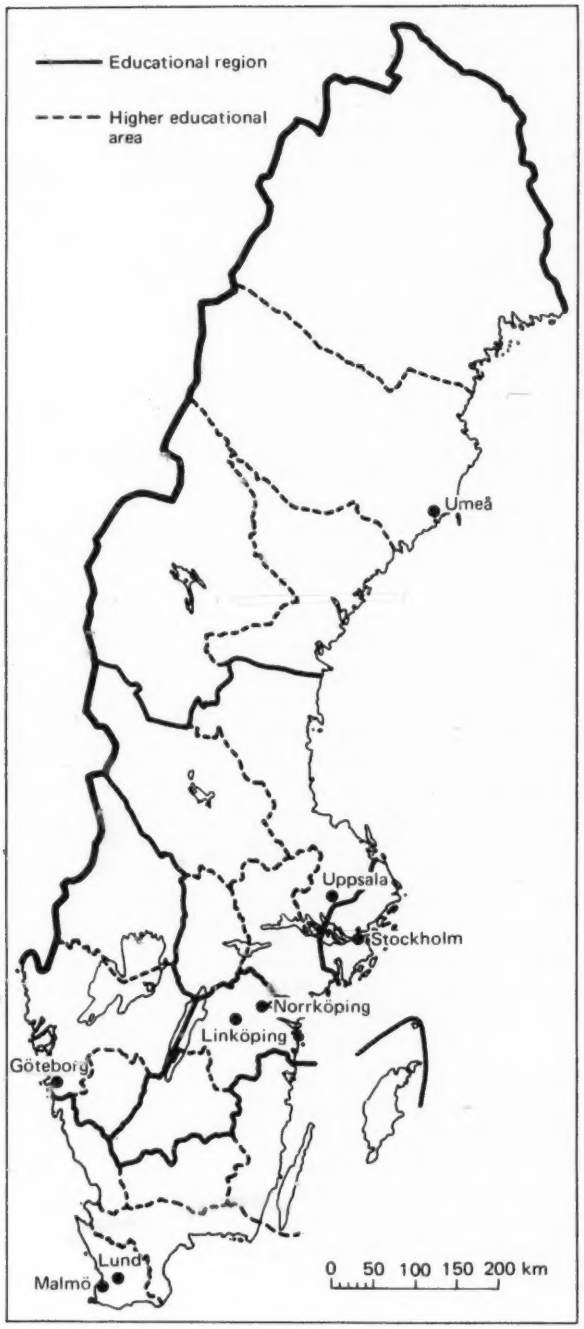


Figure 3

Higher educational areas according to the U 68 proposal.

For certain planning purposes, these areas are grouped into sex regions, as indicated on the map.

4.3 *The Commission's proposals on the location of higher education facilities*

The premises in considering questions on location (see previous section) have led the Commission, in drafting its proposals on this subject, to employ a technique of calculation based on the geographical distribution of the Swedish population. For the purpose of its task, the Commission has divided the country into six regions, the extent of which is shown in Figure 3. The proportion of the population claimed by these different regions is shown in Table 11.

In the Commission's opinion, one should aim at as complete as possible a supply of higher education in each region. Obviously, however, the possibilities of disseminating a given type of education will depend, for instance, on the number of students involved. In each region there is one city with a more complete supply of facilities for basic higher education and research and research training. These cities are given in brackets in Table 11.

The Commission proposes that the expansion of permanent resources for higher education be assigned to the places indicated in Table 12. The Commission's proposals on the total number of students also involve a considerable increase in the resources for single courses. A considerable proportion of these should, in the Commission's opinion, be given in the form of decentralised instruction outside the places with permanent higher education resources. The Commission's proposals on organisation mean that Sweden will be divided into *higher educational areas* corresponding to the places given in Table 12. These areas are shown in Figure 3. Table 12 gives both the present number of students in these higher educational areas, and the guidelines proposed by the Commission for expansion during the planning period (including decentralised higher education). These guidelines have been calculated on the basis of the total figure for students in basic higher education that corresponds to the lower planning limit proposed by the Commission.

To permit a comparison between the planning guidelines proposed by the Commission for different areas and what could be motivated by a strict adjustment of the number of students to population of the area,

Table 11. Population of the regions. 1 000's

Region	Population 1970	Proportion of total population (%)
Northern (Umeå)	887	11
Central (Uppsala)	1 574	19
Stockholm	1 477	18
Eastern (Linköping)	681	8
Western (Gothenburg)	1 661	21
Southern (Lund-Malmö)	1 799	22
Total	8 080	100

Source: Population and Housing Census 1970.

Table 12. Higher educational areas proposed by U 68, with guidelines for their expansion.

Higher educational area	Student places 1971/72	Guidelines for expansion	Student places motivated by population of area
Luleå	2 600[1]	3 500	3 800
Sundsvall-Härnösand	1 500	3 500	4 000
Östersund	1 300[1]	2 000	1 900
Umeå	8 700	9 000	8 000
Total northern region	*14 100*	*18 000*	*17 700*
Falun-Borlänge	700	4 000	4 100
Eskilstuna-Västerås	1 000	4 000	7 900
Örebro	4 400	5 000	4 300
Uppsala	20 000	20 000	16 000
Total central region	*26 100*	*33 000*	*32 300*
Stockholm region	*39 200*	*37 000*	*32 800*
Jönköping	1 600	4 000	4 700
Linköping-Norrköping	7 300	10 000	9 600
Total eastern region	*8 900*	*14 000*	*14 300*
Borås	1 300[1]	4 000	2 900
Karlstad	2 400	4 000	4 300
Gothenburg	23 900	24 000	27 700
Total western region	*27 600*	*32 000*	*34 900*
Kalmar	1 200	4 000	4 500
Kristianstad	1 200	4 000	6 500
Halmstad	–	3 500	3 200
Växjö	2 500	4 000	2 600
Lund-Malmö	21 600	21 000	21 200
Total southern region	*26 500*	*36 500*	*38 000*
Total	142 500	170 000	170 000

[1] When fully expanded according to decisions already taken.

the third column gives figures calculated in the following manner. First, the total number of students in attendance has been distributed over the different higher educational areas in proportion to the population. In view of the greater educational supply in Umeå, Uppsala, Stockholm, Linköping-Norrköping, Gothenburg and Lund-Malmö, one quarter of the attendance figure as calculated by proportionality has been deducted from each of the remaining higher educational areas. This quarter has been added to the higher educational area of those listed that is situated in the region concerned.

In some cases, higher educational areas are indicated by the names of two places. This applies to Sundsvall-Härnösand, Eskilstuna-Västerås, Falun-Borlänge, Linköping-Norrköping and Lund-Malmö. The object is to distribute educational resources over both places. Certain higher education is provided in other places than those listed in Table 12. The Commission's proposals involve no change in this respect.

Obviously, the supply of higher education will be more limited in the majority of areas than at the six major institutions of higher education. However, the Commission's proposals are designed to permit a diversified

supply of educational programmes representing several occupational training sectors and of varying length and character in each higher educational area. For the six regions to offer as well-balanced and complete a supply of higher education as possible, planning for the different areas must be coordinated. U 68's proposals on expansion include definite educational programmes for the different higher educational areas only in respect of the initial year.

U 68 proposes that the initiation of expansion in different areas be spread over four years. This is motivated by the slow growth rate envisaged in higher education during the planning period. It is also desirable that the very extensive planning work that will probably fall upon the higher education authorities should not be excessively concentrated. In judging the time when expansion should start, consideration must be paid, for instance, to the need to utilise existing resources for higher education in a suitable manner.

U 68 proposes that the further expansion of higher education outside the six major areas should start essentially in accordance with the following timetable.

1976/77 Sundsvall-Härnösand, Falun-Borlänge, Jönköping and Kalmar

1977/78 Eskilstuna-Västerås, Borås and Kristianstad

1978/79 Östersund, Luleå and Halmstad

1979/80 Växjö, Karlstad, Örebro and Linköping-Norrköping

The Commission presupposes that starts in the different areas can be postponed or advanced for a year or two in the light, for instance, of the inflow of students, or the employment situation on the labour market.

4.4 *Decentralised higher education*

Higher education is currently offered not only in the university and college towns, but also in the form of decentralised university courses or university circles at a very large number of places in Sweden. Since the early Sixties, courses for 20 points (one term) have been arranged under the auspices of the Office of the Chancellor of the Swedish Universities at some 40 places. Correspondance courses at university level have been arranged by a private institution (Hermods) since the early Fifties.

Since the academic year 1970/71, "systematised decentralised university training" has been taking place on an experimental basis in Luleå, Östersund and Sundsvall. With this system, the supply of courses is designed over several years so that students can plan their studies as part of a general educational programme. Experience of this type of studies has been good, and it is assumed that it will in many cases be suitable even in the future to coordinate the supply of decentralised higher education in an area over a longer period of time.

The experiments with systematised decentralised university training were started at the suggestion of U 68. The Commission also suggested that other experiments be arranged with new forms of distribution, combining self instructional material, study circles and other oral instruction etc.

The Government assigned the planning of these activities to the Office of the Chancellor of the Universities. An experiment in which the study circle is an essential element is being arranged in six places during the academic year 1972/73. This covers slightly more than 100 students. In Kalmar, Kristianstad and Ystad, the experiment is linked to Lund University and covers 20 points in economics. In Finspång, Jönköping and Motala, studies are linked to the Linköping University and relate to 20 points in English.

The expansion of permanent higher education resources proposed by U 68 at certain places within 19 higher educational areas, should in the Commission's opinion be supplemented by other forms of distribution of education designed to reach those who by reason of their work, family circumstances, etc. are tied to a specific place or its vicinity, and often have to study in their free time or together with part-time work. An essential part of the supply of single courses should therefore be decentralised higher education at places lacking permanent resources for the subject field in question. Responsibility for the organisation of decentralised education should rest with the local Board of Higher Education (see Chapter 6).

5 Admission to basic higher education

5.1 *Considerations and proposals regarding restrictions in admission*

In its proposals on the number of students (Chapter 2), U 68 has proposed that the number of admission places in basic higher education be determined by annual decisions. The Commission was asked to consider whether the system of free admission to certain higher education for every formally qualified applicant – in force at present at university faculties of theology, law and philosophy – should be retained. In this context, the Commission has briefly reviewed the factors in educational planning that influence the flow of students to higher education.

The decision of Parliament in the spring of 1972 on the formal qualifications conferred by the upper secondary school means that higher education will in the future be linked to specific lines in the upper secondary school to a much lesser extent than now. The completion of two or more years of upper secondary studies of any kind will confer general qualification for higher studies, provided only that the student possesses knowledge corresponding to at least two years of Swedish and English in the upper secondary school. However, the essentially academic or vocational character of different lines, and the structure of the special qualifications required for higher education, mean that the organisation and capacity of the upper secondary school will continue to have a major bearing on the flow of students to higher education. Obviously, the structure of higher education will also play an important role in this respect. The creation of short-cycle technical programmes, for instance, can be expected to increase the demand for higher education among students from the most vocationally geared lines of the upper secondary school.

U 68's proposal to locate permanent resources for higher education in a total of 19 higher educational areas, and to develop decentralised higher education, can be expected to increase the flow to higher studies from those now unable to study for geographical reasons.

Both the new regulations on formal qualifications and the more disseminated supply of higher education facilities aim at removing previous obstacles to higher studies. Other measures, including financial

support to students, educational guidance and other information have helped to increase the demand for higher education, thus making resources the great limitative factor in educational planning at this level.

U 68's suggestion that it is necessary to reckon with an annual limitation of the number of students admitted to basic higher studies stems from the limited resources that we can expect to be available for this type of education during the planning period. It is then important – within a given limit of resources – to distribute students over different types of education in the light of, among other things, labour market conditions. However, the Commission's proposal does not mean planning higher education primarily on the basis of manpower forecasts. Experience shows that such forecasts are always very unreliable. Also, such an approach in planning would pay insufficient consideration to other educational objectives. The Commission also rejects any limitation of admissions designed primarily to guarantee a level of knowledge over and above that laid down by the rules on qualification. However, limitations on admission that are imposed for other reasons can – owing to the way the rules of selection are structured – lead to such a higher level of initial knowledge among the students accepted.

The choice is between having, as at present, one free and one restricted sector of higher education, and introducing a limitation on admissions for basic higher education as a whole. The alternative of free admission to all higher education is excluded simply by lack of resources. For the same reason it is obvious that a free sector could only cover, as at present, such education as demands few resources in the way of teaching staff, equipment, premises, traineeships etc.

It can be said that the flow to a free sector of this kind would in all probability remain moderate during the next decade, and can be expected to have a reasonable structure in relation to the labour market. In the Commission's opinion, however, one must, in planning, also reckon with the possibility of the flow to a free sector, or part of a free sector, becoming very large. This would have consequences both for resources claimed and for the relationship between education and the labour market.

Planning, says the Commission, must not lead to a situation where tendencies of surplus in relation to labour market needs are gathered into a very considerable oversupply on a small number of educational programmes. If this happens, we cannot say that every student has been given an education that will prepare him for future occupational activities. Experiences during recent years also suggest that the flow to the free university faculties fell off only when labour market difficulties had already appeared. There is also a risk that the flow will increase only when a pronounced shortage of trained persons has already emerged. In this way an oscillation can occur, between a large supply of trained persons when the demand on the labour market is small and a small supply when the demand is large.

An important aspect of the Commission's approach to restricted admission is the demand for a continuous differentiation and renewal of higher education. Experience shows it to be difficult to introduce new

educational alternatives unless one can simultaneously reduce the number of students in existing programmes and thus keep costs under control.

The Commission regards the above arguments as strong reasons to propose a *total limitation of admissions* to higher education. It may be argued against such a limitation – quoting, for instance, experience of present higher education subject to a numerus clausus – that it means a risk of increased social distortion in the educational system. In the Commission's view, however, other measures are of greater importance in achieving a socially more even distribution of educational resources, such as the following:

- Increased educational efforts, outside higher education, for adults who had only a brief period of schooling when young.
- Diversification of the supply of higher education, e. g. by the development of short-cycle programmes, particularly such with natural link with vocational lines at the upper secondary school (short-cycle technical programmes).
- Implementation of the rules, already approved in principle, on qualification and selection for admission to higher studies.
- Decentralised location of new educational facilities, and new forms of distribution and teaching in higher education.
- Educational and vocational guidance, and – in connection, for instance, with the provision of single courses – individual or group information.
- Financial aid and other social measures in connection with studies, to promote a more even distribution in respect of social background and sex.

The realisation of such measures, parallel to the retention of an open sector of higher education, could be judged the best way of broadening recruitment to higher education. However, the measures listed are so resource-intensive that they would be difficult or impossible to implement as long as admission to certain higher studies is unrestricted. All in all, U 68 considers the chances of solving the problem of social distribution within the educational system to be more favourable if the total number of admissions is limited, than if both an open and a closed sector were to be retained in the future.

U 68 thus proposes that admission to all higher education be restricted. The possibility of choosing an education outside the educational programmes laid down by society will be preserved through the individual educational programmes, and opportunities for study in single courses. Even for these, however, the Commission recommends setting a fixed capacity.

5.2 *The organisation of admissions*

Admission to educational programmes

U 68 proposes that admission be in respect of an educational programme or variant (general, local or individual), or to a single course. In principle,

it will be possible to build an educational programme by participating in a sequence of single courses. In such cases, however, the student will be dependent on any changes in the supply of courses in his area, and must gain admission to each single course envisaged. The student admitted to an educational programme is in a different situation: admission relates to the programme as such, and gives him the opportunity to complete a study route within this programme.

Concerning the educational programmes that are now subject to a numerus clausus, and those at present consisting of courses with no restrictions on admission, there is no difficulty in offering guarantees that studies can be completed within the educational programme to which the student has been admitted. A different situation exists, for instance, with the subject teacher programmes which consist of introductory courses, at present mainly with free admission at the philosophical faculties, followed by concluding practical pedagogical training with a limited number of students. In the Commission's view, a person who has started his studies on a subject teacher programme should be assured the opportunity to complete his studies with the occupational aim intended. By the terms of the Commission's proposals, admission would thus from the beginning cover both subject theory and practical pedagogical training. This need not prevent the student from, at some point, transferring to studies with a different direction; nor does it prevent that some of the places in practical pedagogical training be filled with applicants who were not, at the commencement of their higher studies, admitted as students in a subject teacher programme.

In the case of educational programmes of this type, and in certain other cases, it is not always possible to undergo the entire programme of instruction in one place. With the majority of educational programmes, however, this should be the normal thing.

Each educational programme has a normal length of time, expressed, for instance, by 160 points corresponding to a study period of four years. Certain variations in the actual study period can always occur. However, limitations in resources (teaching staff, equipment, premises and study means) make it obvious that the normal study period cannot be greatly exceeded without special reason. U 68 assumes that the present rules on the right to exceed the normal study period can apply in essence also in the future.

It should be possible for a person admitted to a given programme to obtain leave of absence from studies. U 68 assumes that such permission will always be given, for instance, for childbirth, and in the exceptional cases when military service breaks the course of civilian education. In other cases, the local Board of Higher Education should decide whether leave of absence should be granted.

The students who have concluded studies within an educational programme may desire to extend or deepen their knowledge. They can then apply for research training, or for admission to one or more single courses.

It must be possible, without having concluded studies in a given programme, to discontinue these in order to obtain admission to another

educational programme. A special case is transfer between different variants within the same educational programme where certain courses are common to both. In such cases, the student should be able to change his variant and be credited with the studies he has already performed, or at least parts of his studies, provided that a place can be offered him in the concluding courses.

Special limitations on admission to certain courses

Courses in certain scientific fields that are now subject to a numerus clausus exemplify the case in which the possibility of varying admission capacity is limited. It can be difficult to adapt the capacity of such a course to variations in the flow of students.

By the terms of U 68's proposals, the student will from the moment he is admitted to an educational programme be guaranteed a place in the courses of laboratory type included in his initial programme of study, i. e. in his studies for the first three terms. Variations can occur in the flow to a course, owing to discrepancies in pace of study and an altered direction of studies in individual cases. Such variations can sometimes be countered by restructuring the sequence of studies. Such measures, however, should be taken only when they are compatible with a rational design of studies, and with the desires of the students. We must therefore accept that the average use of premises and equipment is somewhat below their maximum capacity.

The situation prior to the practical pedagogical training that concludes the training of subject teachers is similar, but the variations are likely to be greater after the comparatively long period of theoretical subject studies than at the beginning. Also, the opportunities for restructuring studies are less towards the end of training. In the main, it should be possible to counter such variations by careful planning. However, it will probably not be entirely possible to avoid students sometimes having to wait for a term or so before they can start their final training.

5.3 *Selection*

It is not the task of U 68 to propose rules on selection for higher education. Such questions are being studied by the Qualification Committee. U 68, however, does discuss the question of selection, partly to emphasise certain aspects of this that relate to the Commission's proposals on the limitation of admission to all higher education, and to recurrent education.

Among other things, the Commission observes that if entirely uniform rules are applied for selection to all higher education, this can to some extent conflict with the effort to diversify higher education in such a way as to meet varying needs and individual ability and background. The Commission discusses a system in which a certain proportion of places on an educational programme would be filled on the basis of a uniform merit assessment common to all higher education. The remaining places can then be filled on other grounds of selection, in which, for instance,

one includes knowledge and experience of particular value for the studies envisaged, or for subsequent occupational activities.

The crediting of experience from working life in the selection of students is particularly important in that it can stimulate recurrent education. However, the Commission does not recommend making a certain period of occupational experience a generally required qualification for admission to higher studies.

6 Institutional organisation

6.1 *General premises*

U 68's discussion and proposals cover the entire field of basic higher education. Its terms of reference do not cover research and research training but the latter are affected by the Commission's proposals in that they are in many cases coordinated with basic education. U 68 therefore discusses the consequences for the organisation of research and research training that arise from its proposals on basic higher education. In respect of certain points, the Commission suggests that questions be deliberated when its report is circulated for comment. In this context, proposals can emerge that warrant certain organisational changes also for research and research training.

Figure 4 a–d outlines the present institutional organisation at some of the institutions affected.

The Commission's proposals involve no changes in the principles applied in the division of responsibility for higher education. Ever in the future, there will thus be state, county, municipal and, in some cases, private principals responsible for higher studies. The Commission recommends that the question be considered of transferring certain private training to the state sector (studies at the Graphic Institute and the College of Advertising).

The organisation should offer opportunities for adequate contact between higher education and the society. The overall planning of higher education presupposes an interplay with public planning in other sectors. This applies particularly to other educational planning, e. g. for the upper secondary school and adult education. The fact that higher education prepares students for a job demands close contacts between the educational system and occupational life.

The general development of participation in management, and experimental activities with new forms of collaboration between students, teaching staff and other personnel at different types of teaching institutions, raises questions concerning the procedures for interplay between different groups in the organisation of higher education.

The effort to achieve, within a total resource limit, a balanced supply

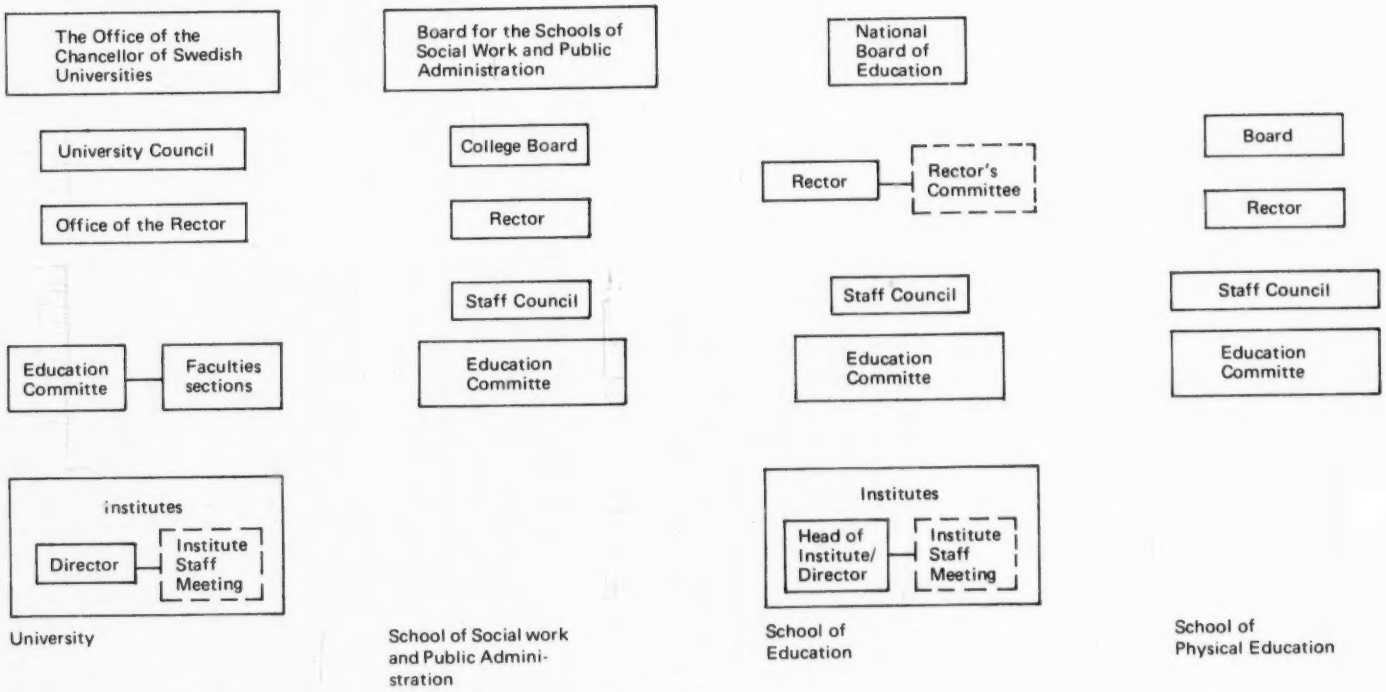


Figure 4. Examples of the present organisation of some post-secondary institutions

of higher education and the need for an efficient use of resources of e. g. staff, premises and equipment demand coherent quantitative planning in the higher education sector. With regard to the organisation of studies, a more uniform structure of higher education offers increased possibilities of combination and a better overall view, thus contributing to the diversification of higher education. It is important that the administrative structure should not hinder attempts to achieve an overall view in planning.

The Commission's proposals on the location of higher education facilities and the development of distribution procedures for higher education create a need for bodies responsible for the planning etc. of education within higher educational areas.

An important guideline in U 68's proposals on organisation is the creation of conditions favourable to a far-reaching decentralisation of decisions. This should relate, for instance, to the content of training, forms and procedures, and the organisation of studies, and it should lead to great freedom in the disposition of available resources. A necessary condition for such decentralisation, says the Commission, is that the local decisionmaking organisation should be anchored in society at large, and that local bodies should have an overall responsibility for higher education as a whole within a higher education area.

The Commission's proposals (see Sections 6.2 and 6.3) involve different planning and administrative organs, for, on the one hand, basic education, and on the other research and research training at what corresponds to the present faculty level. The Commission proposes that a corresponding distinction be observed in the grants system. The distinctions thus proposed are to be seen independently of questions relating to how the actual implementation of training and research is organised at the teaching institutions, and how the duties of individual teachers are distributed over different activities. In the Commission's view, it is essential to achieve a practical link-up between research and basic training in these and other respects.

6.2 *The local organisation*

Questions of delimitation – the state institutions of higher education

As already mentioned, U 68 assumes that the principals of higher education will be essentially the same as at present. The Commission presents proposals relating primarily to the institutional organisation of state higher education, but proposes a somewhat similar organisation for county and municipal higher education.

Swedish colleges of agriculture are not concerned solely with training and research. They provide also very large-scale experimental activities that follow a set programme, and are organisationally integrated with their other functions. U 68 considers it essential that the planning of training at agricultural colleges be coordinated with other higher education. In view, however, of the special circumstances just mentioned, the administrative coordination of agricultural colleges with the state

organisation of higher education at large presupposes certain deliberations that the Commission has not considered part of its task. It therefore proposes that the agricultural colleges continue for the present to have a separate organisation but suggests a certain adaptation of this to the organisation proposed for the bulk of other higher education.

Special circumstances prevail also in respect of certain other state training systems, namely the training of fire engineers and merchant naval officers. This, like such county and municipal education as the Commission proposes be defined as higher education, is sometimes organised in joint school units providing also closely allied upper secondary education. In the light of this, the Commission finds no changes to be called for in the institutional organisation of such training.

For state higher education in each higher educational area, with the exception of agricultural colleges and the training of fire engineers and merchant naval officers, U 68 proposes *one* joint organisation, covering where applicable also research and research training, under one board, the Board of Higher Education. Following the Commission's proposals, such institutions of higher education would be designated *högskola* (University or College) and would cover all personnel and material resources for the education concerned.

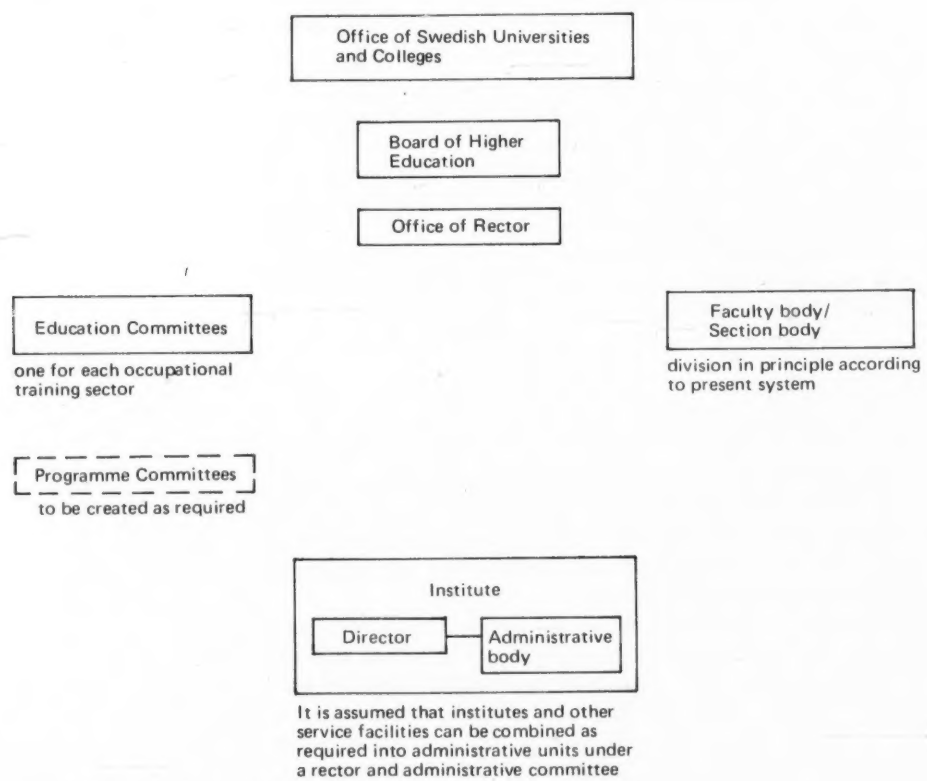

Office of Swedish Universities and Colleges
Board of Higher Education
Office of Rector
Education Committees
one for each occupational training sector
Faculty body/ Section body
division in principle according to present system
Programme Committees
to be created as required
Institute
Director
Administrative body
It is assumed that institutes and other service facilities can be combined as required into administrative units under a rector and administrative committee

Figure 5. Organisation in principle of a state institution of higher education.

In the view of the Commission, the Board of Higher Education should be responsible within given frameworks for the local design of the institutional organisation. Implementation of the Commission's proposals would not presuppose any radical changes in existing educational and research environments. On the other hand, U 68 sees the organisation proposed as an important framework for the gradual development and renewal of administrative and working procedures within the institutions of higher education.

The essentials of the organisation proposed by U 68 for a state institution of higher education will be apparent from Figure 5.

Institutes, service facilities and administrative units

U 68 suggests that the units at which instruction and, where applicable, research take place should be called *institutes*. It is assumed that an institute will be able to carry through instruction within several educational programmes, and within different occupational training sectors.

Libraries, workshops etc. can be incorporated in institutes, or form special units working jointly for all institutes, or for groups of institutes. U 68 terms such units *service facilities*.

Classification into institutes should be made with a view not only to the objectives of the organisation and geographical conditions, but also to the desire not to break up smoothly functioning educational and research environments. As in the university organisation following the 1964 reform, the effort should be to bring together into an institute the resources available in one and the same subject field, or adjoining subject fields.

At higher education institutions providing also research and research training it will probably often prove suitable, as at present, to bring together the resources for research, research training, and basic education in one or more subject fields to form an institute. In this way it will be possible, for instance, to maintain existing forms of contact between basic education and research, and utilise resources in the most rational manner.

In other cases, it can prove suitable to bring together the resources for research and research training in adjacent subject fields into an institute – which will have the character of a research centre – while assigning the resources for basic education to their own institutes.

The principle of division into institutes according to subject field may have disadvantages in those cases where several subject fields have been very firmly integrated in an educational programme. The advantages then offered by assigning the resources linked to the educational programme in question to one and the same institute must be weighed against possible disadvantages in the form of a less pliable disposition of resources, less adequate contacts with research or between different parts of the subject field etc.

In the view of the Commission, the Boards of Higher Education should be responsible for the division into institutes and service facilities. In conjunction, however, with the transition to the new organisation,

local organisation committees should work out proposals on, for instance, this division of the future higher education institutions, and decisions to this end be made by the Government.

Administrative procedures at the existing institutes are the subject of extensive experimental activity, in view of which U 68 has refrained from drafting any concrete proposal on organisation in this respect. However, the Commission considers it natural that the administration of institutes be entrusted to persons working there. It assumes that the present efforts to increase the right of staff and students to participate will provide an important basis for decisions on administrative procedures at the future institutes, and that some form of board will exist at these. U 68 also assumes that executive responsibility at the institute will be entrusted, as it is at present in the majority of instances, to a member of the teaching staff appointed by the Board of Higher Education and entitled a Director.

The Commission considers that it should be left largely to the local bodies to decide, within given frameworks, on the internal organisation and working procedures of the institutes. Service facilities should also be organised and administrated as the Boards of Higher Education may decide.

In some cases, the number of institutes in the proposed institutions of higher education will be very high, and the geographical distance considerable between institutes, e. g. in the Stockholm area and in Lund–Malmö. It may be useful in these cases to group institutes in administrative units. It will then be possible to delegate to these units certain items of business or preparation (e. g. in respect of personnel and other resources) that would in principle be discharged by the Board of Higher Education. In this way, it should be possible to avoid a cumbersome administration and unsatisfactory communications. Units of this kind would also make it easier for students and staff to identify within the greater institution, and find a tangible working environment. Like the division into institutes, assessment of the need for administrative units, and the grouping of institutes into these, should be the responsibility of the Board of Higher Education. In conjunction, however, with the transition to a new organisation, the Government, on the proposals of the above-mentioned organisation committees, should decide the initial division into administrative units.

The duties of these units will be exclusively to perform tasks on behalf of the Board of Higher Education. U 68 considers it natural that an administrative unit should be managed by a collegial body consisting of staff and students within the unit, and that the executive responsibility for such a unit be assigned to a member of teaching staff appointed by the Board of Higher Education. For these, the Commission uses the terms administrative committee and rector. Members of the administrative committee should be named as decided by the Board of Higher Education.

Education committees and programme committees

U 68 proposes that, at every institution of higher education, there should normally exist planning and administrative bodies for basic education, known as *education committees*, one for each occupational training sector represented at the institution by general educational programmes. The Commission further proposes that, below the education committees, there may exist *programme committees* responsible for educational programmes or groups of programmes. It is proposed that the Board of Higher Education be responsible for setting up programme committees on the proposals of education committees, and deciding on their main areas of responsibility. In addition to this, a practicable division of work between the education and programme committees could be achieved by delegation from the former to the latter.

It is proposed that the functions of the education and programme committees should be *inter alia* as follows:

- to review the content, organisation and capacity of education
- to draft, in collaboration with the institutes, proposals on requests for grants, to be submitted by the Board of Higher Education
- to draft budgets, or to establish budgets within frameworks set by the Board
- to follow and check the results of instruction, and take appropriate measures to solve arising problems
- to establish local plans for educational programmes, and course syllabuses
- to decide on exemption from formal requirements, and on the crediting of studies completed outside the programme in question
- to work out guidelines for educational and vocational guidance, and for local information on education
- to cooperate with the study funds committee.

U 68 proposes that each education or programme committee should consist of some ten members, suggesting as a guideline for its composition one third teaching staff, one third students, and one third persons taken from occupational life, and where applicable, the municipal or county education system. It can be difficult to recruit representatives of working life for certain committees, and their composition must then be adapted to these circumstances. The exact composition of each committee should be laid down by the Board of Higher Education.

To ensure that the sphere of competency of each committee is covered as adequately as possible by its composition, the members of education and programme committees should be appointed by the Board of Higher Education. The Board, according to local conditions, should request proposals from relevant authorities, organisations or groups. The chairman should be specially appointed by the Board. If suitable, the chairman should be able to function as executive member, and in principle be employed on a full-time basis for this purpose.

The faculty and section organisation

It is intended that the education and programme committees proposed by U 68, organised according to occupational training sectors and educational programmes, should take over the functions in respect of basic higher education that rest with the present education committees, and with the faculties and sections at universities and certain colleges and teacher councils or Staff Meetings at other colleges.

The duties of the planning and administrative bodies for research and research training in the proposed organisation will correspond to those of the existing faculties and sections and education committees (excl. basic education). In addition, they will cover corresponding activities at the present major schools of education, and the school of physical education in Stockholm.

U 68 assumes that the sub-division of the organisation for research and research training will be continuously reviewed by the relevant authorities and bodies. It further assumes that the principles now applied for division into faculties and sections will be retained for the present. However, in connection with its proposals on a coherent local organisation etc. it raises the question of certain conceivable changes, mainly in respect of coordination between similar sections within the faculties of mathematics and natural sciences and the faculties of technology.

In the present organisation, both the education committee and the faculty/section bear responsibility for research training. In the opinion of the Commission, every faculty/section should have only *one* body responsible for the planning and administration of overall activities. In view of the tasks of research training, it is obvious that the research students should be represented on such a body. In view, also, of the efforts being made towards extended participation, it is not only the permanent teaching staff that should be represented. The Commission also considers the question of faculty and section membership for university lecturers and those holding corresponding lectureships at the present schools of education etc., recommending general membership of this kind for the teaching staff in question.

The Board of Higher Education

As already mentioned, U 68 proposes the creation of a board for the main part of the state organisation of higher education in each higher educational area.

By the terms of the Commission's proposals, the Board of Higher Education will be responsible for the administration of all resources for higher education activities, and for the planning of resources common to the institution's various branches of activity.

It is intended that the Board of Higher Education should carry overall responsibility for activities, and for the planning of the institution as a whole. However, the Commission's proposals imply that the status of a Board of Higher Education will not be entirely the same in respect of research and research training (where applicable) as with regard to basic

education.

It is thus proposed that the Board of Higher Education bear the overall responsibility for planning the capacity and general structure of basic education at large. This involves, among other things, responsibility for decentralised higher education within the higher educational area, primarily in the form of single courses. U 68 proposes that the Board should present annual budgetary requests for basic education, on the basis of proposals from the bodies primarily responsible for the planning of education, namely the education committees.

On the other hand, the Commission proposes no change as regards responsibility for the planning of research, and research training. As at present, the annual budgetary requests would be submitted to the central authorities by the faculty or section bodies, as would proposals on the subject content of professorships. The Board of Higher Education should make statements on these questions in its capacity as the body responsible for the overall resources of the institution of higher education.

It is proposed that a Board of Higher Education should have some ten members, appointed by the Government after proposals have been duly requested from the relevant authorities and organisations etc. In the Commission's view, the majority of the Board should be representatives of public interests. U 68 suggests the following guidelines for the composition of the board.

- Six members who represent public interests, and are appointed with regard to *inter alia* the importance of connections with regional and local bodies, and with occupational life.
- Two representatives of education, and where applicable research. These members should be teaching personnel, one of them also Rector of the institution, the other its Prorector.
- One representative of the staff (all categories).
- One representative of the student body.
- The administrative manager, if such a post exists.

The Commission assumes that – as is now the case at e. g. the universities – a Rector's Office, consisting at the larger institutions of the Rector and administrative manager, will exercise continuous superintendence of activities, and function as the executive body. By the terms of the Commission's proposals, the Rector and Prorector will be appointed on the proposal of the Board of Higher Education, from candidates nominated by an assembly consisting of the staff and students of the institution.

The tasks of the Board of Higher Education will be both extensive and varied. The Board will have to concentrate on major questions, and questions of principle. Great attention must be devoted to creating within the institution of higher education a practical decision-making organisation, and a suitable distribution of tasks between different bodies. It should be possible for the Board both to set up special bodies to handle different questions, and to delegate the right of decision to these and other bodies within the institutions, e. g. the educational and

administrative committees.

In the opinion of the Commission, a drafting committee for the planning of premises and equipment should be created where necessary. This committee should include representatives for different categories of staff, and for the students, plus the necessary expertise from other authorities (above all the National Board of Building and Planning and the Equipment Board for Universities and Colleges). Similar bodies are also conceivable for matters relating to e. g. libraries, data, workshops and teaching aids and for joint questions relating to basic education or to research and research training.

The principle of one single local organisation of higher education means that the administrative resources available, other than those belonging to institutes and service facilities, should be parts of one and the same administration of higher education. The size and organisation of this administration will obviously depend largely on the scale and nature of activities.

The organisation of county or municipal higher education

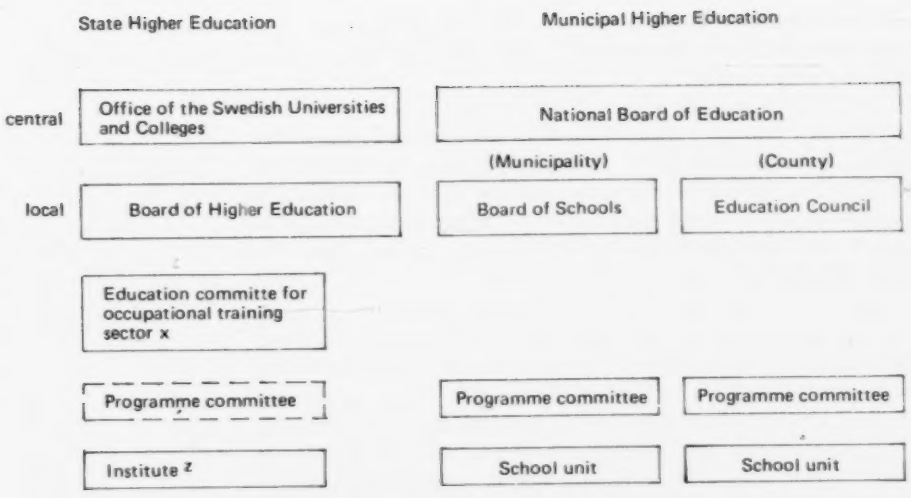
U 68's proposals on the organisation of local authority higher educational facilities are based on existing conditions as regards responsibility. This means, essentially, that training in nursing and allied occupations will be a task for the county council, while other local authority higher education will be the responsibility of municipal councils. In both cases, training today is often co-organised with training at the upper secondary level.

In the Commission's opinion, state control over municipal higher education should be less extensive than in the case of the upper secondary school. It is important that local authority higher education should appear to both students and employers as of equal status in different respects with state higher education.

The local authority should be required to accept also students from outside the county or municipality. By the terms of the Commission's proposals, inter-authority compensation will be paid as it is at present for the upper secondary school.

In local authority higher education, the Board should in principle be the Board of Schools in the case of a municipality, and the Education Council in the case of a county. However, where coordination with the state higher education institution is important, the question will arise of a body within the latter deciding on individual matters which relate to municipal training, e. g. as regards educational programmes containing elements from both the state and municipal educational system.

Under the Board of Schools or Education Council, the Commission considers that bodies should be created with tasks corresponding to those of the state education committees. As a rule, the competency of these will cover educational programmes, or groups of such. They should therefore be termed programme committees. Such committees should be composed according to the same principles as apply to the corresponding



x It is proposed that the education committee be given certain coordinative duties in respect of all higher education, including that provided by municipalities and counties.

z It is assumed that an institute can in some cases form, together with other institutes and service facilities, an administrative unit.

Figure 6. Outline of the proposed organisation for state, county and municipal basic higher education.

state bodies, and their members should be appointed in the same manner. The correspondence between the state and local authority organisation of higher education is shown in Figure 6.

Regional cooperation

The expansion of higher education facilities has in many cases involved an interplay between different teaching institutions. In the case of the affiliated universities, for instance, certain higher education in a given place has been, from the standpoint of organisation, incorporated in the university of a nearby city. By the terms of the Commission's proposals, the institutions of higher education will be independent units. By the introduction of a locally coherent organisation the need for local cooperation is emphasised.

Even in the future, says the Commission, there will be a great need of cooperation and consultation between the state institutions of higher education and municipal or county authorities responsible for higher education. In many cases, the regions which the Commission has outlined for capacity and location purposes will provide natural frameworks for cooperation on planning. This applies, for instance, to the supply of local educational programmes, and of single courses (including decentralised education), where the Commission proposes that the individual Board of Higher Education should be free to utilise available resources. It applies also to teacher exchanges

between institutions with and without a research organisation. Such exchanges will be of great importance for the smaller institutions, and their contacts with research.

U 68 considers it suitable that a body be created for consultation between the state Boards of Higher Education and the boards responsible for county and municipal higher education facilities, at least in the regions containing more than one state institution of higher education. The Commission assumes that the board of the largest state institution in each region will take the necessary initiative, and be responsible for providing administrative services for such a body.

The question of consultation and cooperation on concrete planning projects can arise also as between institutes or between education and programme committees. Experience, for instance, of the affiliated universities indicates the need for such cooperation. Consultation on planning and the joint use of staff etc. should be normal procedure in the building up of a new institution or a new educational programme at an existing institution. Cooperation on the recruitment of students from smaller institutions for research training is also important.

To husband resources, certain functions should be concentrated to specific institutions of higher education. This applies, for instance, to experts for the planning of premises and equipment, who should be attached to certain larger institutions with the obligation of assisting other institutions as needed. Other fields in which the question of staff cooperation of this kind can arise are pedagogic development work, and the teaching aids sector. Such economic and administrative functions as accounting should also be concentrated to certain institutions where suitable.

As regards the relationship at the local level between a state institution of higher education and the municipal education system, it is important that cooperation be established not only by personal links but by the regular handling of questions of joint interest in consultation between authorities within the state and local authority organisation. To give one example, such consultation should precede annual budget proposals.

6.3 *The central organisation*

A more uniform government office organisation

The decisions that will steer educational planning at large are the responsibility of the central state authorities. In the Commission's opinion, decisions on the capacity, organisation, content and procedures of the higher education system should be delegated to an increased extent to the institutions of higher education. Even in the future, however, central planning and coordinative efforts will be of such a scale or nature that one or more government offices for higher education will be motivated.

The effort to coordinate educational planning that underlies the Commission's proposals on local organisation motivates, also at government office level, as coherent a system as possible. Such an organisation should cover state, county and municipal higher education within the

sphere of the Ministry of Education.

As mentioned in Section 6.2, certain higher education is organised jointly with upper secondary education. This applies mainly to municipal higher education, and certain state education such as the training of merchant naval officers. For practical reasons, the school units involved should belong in their entirety to the competency of one and the same government office.

In the Commission's view, the National Board of Education should continue to function as the central authority for such education, and for the training of merchant naval officers. To ensure the coordinative planning of higher education as a whole, suitable procedures should be developed for consultation between the National Board of Education and the government office organisation responsible for other higher education facilities.

The Office of the Swedish Universities and Colleges

In the light of the above considerations, the Commission proposes that government-level administrative duties for practically all state higher education within the jurisdiction of the Ministry of Education be assigned to a new office, which the Commission terms the *Office of the Swedish Universities and Colleges.*

By terms of the proposals, the duties of this Office will correspond to the present functions of above all the Office of the Chancellor of the Swedish Universities, the National Board of Education and the Board of Schools of Social Work and Public Administration in respect of basic higher education, as regards, for instance, the capacity and location of facilities, admission to training, the organisation of studies, pedagogic development work, the institutional organisation, staff questions, and administrative functions at large. It is further intended that the new Office should take over the duties in respect of research and research training that now rest primarily with the Office of the Chancellor of the Swedish Universities.

In addition, the Commission proposes that the Office should take over the central functions in the planning of premises and equipment that are currently discharged by the Planning Committee for Premises and Equipment of Universities and Colleges.

U 68 proposes that the new Office should be led by a Governing Board appointed by the Government and consisting, apart from the executive management, of representatives of public and private activities that have connections to higher education, and of the employees and students. In composing the board, consideration should be paid to the needs of both basic higher education and research and research training, and an effort should be made to establish ties with different societal and occupational sectors.

To be able to discharge its duties in respect of planning and development, the Office will require the participation of a much wider range of persons associated with different occupational and educational sectors, and fields of research, than can be contained within its board,

and among its permanent staff. U 68 therefore proposes that a regular organisation of Planning Boards be created within the new office, similar to that now existing within the Office of the Chancellor.

U 68 assumes, in this context, that the present *Faculty Planning Boards* within the Office of the Chancellor be retained for the present for matters relating to research and research training.

As regards the organisation of planning for basic higher education, the Commission considers it necessary to establish procedures that will ensure adequate contacts with working life, and correspond to the planning organisation of the respective institutions. These requirements are not generally met by the Faculty Planning Boards, which in respect of basic education now work only within part of what will be the future system of higher education. U 68 therefore proposes an organisation with five *Educational Planning Boards*, one for each occupational training sector.

The members of these should be appointed by the Government, and represent among others employers and employees within the relevant occupational sector, state authorities concerned with this sector or responsible for related education, teaching and research staff active at institutions of higher education, other employees, and the students.

With the incorporation of the present organisation for the planning of premises and equipment into the proposed institutions of higher education and the Office of Swedish Universities and Colleges, the Commission considers that a Planning Board for these purposes should be created within the new Office. This Planning Board should include representatives of the National Board of Building and Planning and the Equipment Board for Universities and Colleges, and of those active within universities and colleges.

6.4 *The grants system and the organisation of staff*

Principles for the grants system

Certain changes in the way in which funds are allocated for higher education activities will be necessary when the Commission's proposals are implemented. The question of further changes can arise in the current development work on programme budgeting within the state administration. The Commission limits its discussion to changes of the former type.

The Commission considers it natural that the Government's allocation of resources for higher education activities should be by objective. The grants system should therefore be based fundamentally on the sub-division of activities into sectors, not on the sub-division into institutions of higher education etc. As mentioned in Section 6.1, the Commission proposes a distinction in respect of grants between, on the one hand, basic higher education, and, on the other, research and research training at the universities and colleges.

In the case of research and research training, U 68 assumes that funds for such activities will be allocated as previously according to faculty areas. In the case of basic higher education, the Commission's proposals involve planning etc. on the basis of a sub-division into occupational training

sectors. The Commission therefore considers it natural that funds, too, should be allocated mainly according to these sectors. To facilitate an overview, grants for county and municipal – and where applicable private – higher education should also be made by sectors.

U 68 proposes that changes be made only in respect of those grants that are now tied to faculty areas, or to types of teaching institution.

A distinction in respect of grants between basic higher education and research/research training presupposes a distribution of the existing faculty grants over the two branches of activity. Such a distribution need not involve the allocation of a given type of teaching post entirely to the one or the other branch of activities. In the Commission's opinion, great freedom should be allowed in the actual use of the overall teaching resources available, in the light of the duties to be discharged. However, certain normal or standard patterns must be worked out, to permit a division of the present grants between the two activities for the purposes of calculation – from the premise, naturally, of how resources are utilised at present.

No division should be made of the funds allocated according to faculty area or occupational training sector over grants to meet different types of cost, e. g. teachers' salaries and operating costs; local freedom in the disposition of resources should be promoted by allocating funds under one and the same grant per faculty area and occupational training sector.

Grants for basic higher education

The resource requirements of each of the general educational programmes that will be created by the terms of the Commission's proposals will provide a natural starting point for calculation of the new sector grants for basic education. Gradually, one should here arrive at standard patterns for the calculation of educational costs, patterns that can be used in local and central planning and budgeting. In this context, allowance must be made for the fact that conditions can vary as between institutions of higher education of different types.

As previously, Parliament and Government should indicate the number of training places per programme or group of programmes for which funds are allocated. The Government or the Office of the Swedish Universities and Colleges on the authority of the Government, should distribute the funds allocated under each sector grant over individual institutions of higher education. Within the framework set, the local higher education authorities should in principle be free to distribute funds over the relevant programmes. However, the question of certain restrictions may arise, in order, for instance, to facilitate the transition to the new system.

Funds for local and individual educational programmes – which, says the Commission, are difficult to distribute in advance over occupational training sectors – should be allocated under a special grant. Such steering as the Government may wish to exercise can be achieved by fairly general guidelines, and the university or college in question will otherwise be free to decide how funds should be used. The same system should be

applied in the case of funds for single courses, which should also be provided under a special grant. The existence of more permanent teaching posts can, however, prove a restriction when it comes to using the funds allocated.

The allocation of funds in accordance with these principles will make certain new demands on the internal planning routines of the institutions of higher education. U 68 emphasises the overriding responsibility of the Board of Higher Education for its overall resources, and the importance of its guaranteeing the necessary degree of stability even to institutes whose activities are covered by several different grants.

Types of posts

The implementation of the institutional organisation proposed by the Commission will not require any fundamental changes in e. g. appointment procedures, required qualifications and duties. The Commission assumes that there will still be teaching posts intended mainly for research and research training, and posts intended predominantly or entirely for basic higher education. However, the teaching institutions to be incorporated in the new institutions of higher education contain a wide variety of different posts. It is important to create favourable conditions for a flexible use of total resources by smoothing out certain differences between various equivalent posts. The aim should be to reduce the number of different types of teaching post, and to achieve as uniform regulations as possible for each type of post.

Implementation of the Commission's proposals will have a concrete effect on management functions at different levels within the institutions concerned. In view of the varied conditions existing in different parts of the future institutions of higher education, U 68 emphasises the importance of a pliable system of full-time or part-time posts to supply such management functions as Rector or Prorector of university or college, Rector of an administrative unit, Chairman of an education or programme committee, Dean or corresponding of a faculty/section, and Director or Director of Studies at an institute. In the majority of cases, it is assumed that these duties will be discharged by teaching staff. It should be possible to combine various functions in one and the same person.

The creation of posts, and appointments

The Commission considers that the Board of Higher Education should enjoy great freedom, within given economic frameworks, to create posts for teaching staff, and for technical and administrative personnel etc.

As regards appointments, U 68 finds desirable a considerable degree of decentralisation to the Boards of Higher Education. However, the Commission finds no reason generally to go into the questions of the level at which appointments to different types of teaching post should be decided. It does, however, consider it necessary to propose a uniform level of appointments in the case of different posts as lecturer,

where conditions at present differ from one type of teaching institution to another. Pending further review of the question, the Commission proposes that all lecturers should be appointed by the Office of the Swedish Universities and Colleges on proposals from the Board of Higher Education. Other posts, except such that are traditionally appointed by the Government, should be handled by the Board of Higher Education.

In the case of appointments to teaching posts designed predominantly for research and research training, U 68 assumes that proposals will be submitted by the appropriate faculty or section. In the case of posts designed entirely or predominantly for basic teaching – including different types of lectureship – it would be difficult to achieve any corresponding regular participation by the education committees, since several different committees will often be concerned. U 68 therefore considers it natural that proposals be submitted to the Board of Higher Education by the relevant institute, and that the Board should then decide from case to case whether any further special procedure is necessary.

Duties of teaching staff

The freedom proposed by the Commission in the use of total teaching resources is an important factor in promoting the desired contacts between research/research training and basic higher education. From the standpoint of both higher education activities and the individual teacher, it can be both necessary and desirable that a professor, for instance, should work with basic teaching and a university lecturer with research training. It is important to improve the formal opportunities for teachers employed mainly in basic higher education to assume duties in research training.

Such exchanges of working duties can be arranged most simply within the framework of the individual institute, if the institute is common to both types of activity. Exchanges between institutes within a university or college should be arranged by decision of the Board of Higher Education, at the suggestion of those concerned, or after they have been heard.

Similar exchanges between different institutions of higher education are of great importance for the research contacts of the smaller institutions, and their teaching staff. The need for funds for such exchanges should be considered in the calculation of grants for basic higher education. A general condition for changes of the type here discussed should be that decisions are made with the full understanding of the teaching staff concerned.

A more active contact with research is also of great importance for teachers working entirely or primarily in basic higher education. U 68 proposes that it should be possible for the individual teacher to have his teaching duties concentrated in time, to permit coherent periods of research. The Board of Higher Education should be able, in the case of teachers with the required basic scientific competency, to make such redistributions in time within the given total framework.

In other and more general forms contact with research etc. could be

made an obligation for teachers concerned mainly or exclusively with basic higher education. For certain teachers, the most practical means of contact could be recurrent engagement in research projects. In other cases, the best solution can be in-service subject training. Contacts with working life in the field concerned, and with other types of training, can also be rewarding for the individual teacher, and enrich his teaching. The Board of Higher Education should have an overriding responsibility to plan this sort of in-service teacher training, and funds should be earmarked for the purpose.

Exchanges of duties within the basic higher education, both between different institutions, and between different parts of the discipline concerned, are also of value, and should be made possible in the same way as the above-mentioned exchanges between basic education and research/research training.

7 Costs

7.1 *Premises*

U 68 has estimated the costs of basic higher education following implementation of its proposals. Calculations have been based on average unit costs of different types of education. As funds for the types of education concerned are now allocated under a large number of grants of highly disparate character, it has proved difficult to arrive at comparable cost figures on different types of higher education.

Within the university sector, for instance, grants cover both basic higher education and research/research training. It is impossible to give the exact breakdown of costs over these activities, without an analysis of the costs distribution at each individual institute. A breakdown must also be made of grants which are common to several faculties, e. g. for premises, administration and libraries. The Commission has in these cases estimated the average breakdown into basic higher education and research/research training. Estimates of this kind seem sufficient for cost calculations in the context of overriding long-term planning. There are also other factors influencing total costs, such as number of students present during the planning period, which are subject only to a fairly rough approximation. A more detailed breakdown of costs should be made in connection with annual planning decisions.

7.2 *Unit costs*

In U 68's proposals, the basic planning unit is the educational programme. So far as possible, estimates of costs should therefore relate to these programmes. Factors of interest in this context include costs per student place, and the total cost for each student admitted to the programme.

In the case of the philosophical faculties, current quantitative planning relates to existing courses, and not to educational programmes. Instead, costs have been estimated for the number of places on different courses for which resources have been allocated ("resource places").

Table 1 of appendix 5 gives estimated average teaching and administra-

tive costs per student place in different types of higher education. For educational programmes that include courses at philosophical faculties, average costs per resource place are given for different courses in Table 2 of appendix 5.

Table 3 of appendix 5 gives the estimated total costs of teaching and administration for certain types of higher education.

In assessing the total social costs of a certain type of education it is necessary to include also the value of the productive effort the student would otherwise have made in an alternative, productive occupation during his time of study. Obviously, estimates of such alternative costs are hazardous. In comparing the total costs of different educational programmes a rough approximate value of SKr. 25 000 per student and year has been used for these alternative costs. For a 4-year education, a sum of say SKr. 100 000 could thus be added to the total costs of teaching and administration.

7.3 *Estimated costs and expenditure for basic higher education during the planning period*

Figure 7 shows the estimated total costs of teaching and administration for basic higher education following the Commission's proposals. Table 13 shows the corresponding costs with a breakdown into general educational programmes within the five occupational training sectors, local and individual educational programmes and single courses.

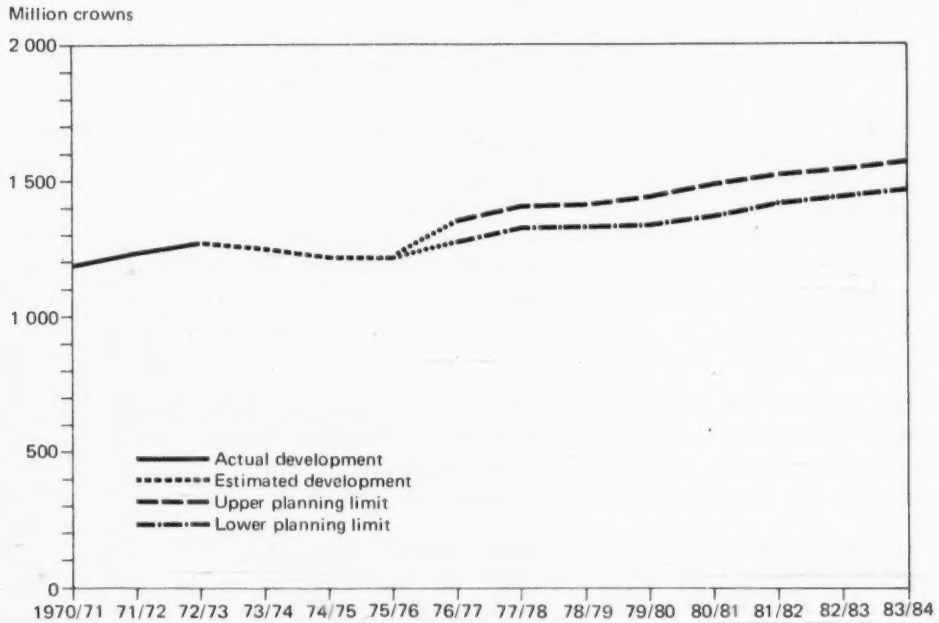


Figure 7. Costs of teaching and administration for basic higher education following the proposals of U 68. 1972 wages and prices.

Table 13. Breakdown of teaching and administrative costs of higher education by objective according to U 68's proposals for 1970/71, 1975/76, 1976/77, 1980/81 and 1983/84. SKr. millions, 1972 wages and prices. Upper (U) and lower (L) planning limit.

			1970/71	1975/76	1976/77	1980/81	1983/84
1	Technological training[1]	U	185	265	290	340	365
		L	185	260	285	315	345
2	Administrative and economic training[1]	U	40	70	90	130	145
		L	40	70	80	115	130
3	Training in medicine, social work etc.[1]	U	280	335	350	380	400
		L	280	330	340	360	370
4	Teacher training[1]	U	250	250	290	305	310
		L	250	245	275	290	300
5	Training for cultural and informative occupations[1]	U	40	50	55	70	80
		L	40	50	55	65	75
6	Local and individual educational programmes	U	–	–	20	85	95
		L	–	–	20	65	75
7	Single courses	U	–	–	100	145	175
		L	–	–	100	145	175
8	Basic education within philosophical faculties[2]	U	390	250	180	20	0
		L	390	235	150	10	0
9	Total	U	1 200	1 200	1 350	1 500	1 550
		L	1 200	1 200	1 300	1 400	1 450

[1] For the period 1970/71 – 1975/76 excl. basic education at the philosophical faculties.
[2] From 1976/77, it is intended that students be admitted for instruction only in respect of 1 – 7.

Table 14 shows the estimated expenditure for study grants and loans, and certain payments to trainees, during the planning period. These expenditures are in the nature of loans and transfers, and are not considered as costs in an economic calculation at the national level. Obviously, however, they must be allowed for in any financial assessment, together with estimated expenditure on teaching and administration.

7.4 *Requirements in respect of premises and equipment*

The costs reported above relate to annual operating costs of teaching and administration, including e. g. rents for premises. U 68 has estimated the initial costs for the building and acquisition of premises, and their furnishing and equipment for basic higher education, on a scale corresponding to the calculated increase of capacity during the Commission's planning period, at approx. SKr. 400 million.

In the opinion of the Commission, however, only a minor part of these investments will be necessary during the planning period. The expansion programme covers a large number of places, and a fairly slow increase in number of students is planned at each of these. According to an inventory performed by the Commission at the places concerned, the greater part of the requirement in respect of premises can be covered by existing facilities, in some cases after limited conversion and improvement. Normally, certain supplementary furnishings and fittings will be necessary.

Table 14. Expenditure on financial aid for higher studies, SKr. millions. All students, 1972 wages and prices.

		1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Upper planning limit															
Study grants[1]		260	250	250	250	260	240	280	280	290	310	300	320	330	330
Repayable study loans		690	650	650	650	640	610	720	720	760	790	800	830	870	870
	Total	950	900	900	900	900	850	1 000	1 000	1 050	1 100	1 100	1 150	1 200	1 200
Lower planning limit															
Study grants[1]		260	250	250	250	240	250	270	270	270	280	280	290	290	310
Repayable study loans		690	650	650	650	610	600	680	680	680	720	720	760	760	790
	Total	950	900	900	900	850	850	950	950	950	1 000	1 000	1 050	1 050	1 100

[1] Including also payments to trainees, which comprise roughly one third of the sum given as study grants.

8 Implementation of the Commission's proposals

U 68 considers that its proposals should be circulated for comment during a relatively long period, extending some way into 1974. This would permit Parliament and Government to make a decision-in-principle in 1974, on the basis of the Commission's proposal. In the Commission's judgement, the bulk of its proposals on capacity and location, on the organisation of higher studies, and the institutional organisation of higher educational areas could come into force during the fiscal year 1976/77.

U 68 intends to submit a special report during 1973, with proposals on the organisation of the Office of the Swedish Universities and Colleges, and guidelines for the organisation of the administration of the institutions of higher education. It assumes that this special report can be circulated for due comment in time for the Parliament's decision-in-principle to cover also these aspects of administration. U 68 proposes that the Office of the Swedish Universities and Colleges be set up as early as in the fiscal year 1975/76.

Local organising committees for the future institutions of higher education should be called together immediately after the basic decision by Parliament, to draft detailed proposals on the organisation and capacity of facilities within the different higher educational areas. These committees should also draft proposals on the local administrative organisation. Their functions should be similar to those of the proposed Boards of Higher Education. It is further intended that these organisation committees should have coordinative duties in the drafting of budget proposals until the new organisation has come into force.

The restrictions proposed by the Commission on admissions to higher education presuppose application of the new rules for qualification and selection approved in principle by Parliament in 1972, and the establishment of an organised system for these admissions. Detailed proposals on rules in respect of qualification and selection, and on an admissions system, are being drafted by the Qualification Committee appointed in 1972. This committee's directives state that its work should be so planned as to permit the presentation of a Government Bill to Parliament in 1975. Implementation of U 68's proposals from 1976/77 presupposes that information on the new rules in respect of qualification and selection should be available during the autumn term 1975.

Appendix 1 Members and Reference Groups of U 68

Members and Reference Groups of U 68

Certain changes in the representation of various organisations have occurred in the course of work of U 68. The following list refers to the situation in March 1973, when the main report was presented.

Members

Lennart Sandgren, Under Secretary of State of Education (chairman)
Hans Löwbeer, Chancellor of the Swedish Universities
Bertil Olsson, former Director General of the National Labour Market Board
Jonas Orring, Director General of the National Board of Education.

Reference Groups

Representatives of the Political Parties
Birgitta Dahl, MP, social democrate
Bertil Fiskesjö, MP, center
Lars Gustafsson, MP, social democrate
Bengt Gustavsson, MP, social democrate
Ove Nordstrandh, MP, moderate
Carl Tham, Party secretary, liberal

Representatives of the educational system
Christina Flink, the Union of Secondary School Students (Elevförbundet)
Nils Gralén, Rector of the Chalmers Institute of Technology, Gothenburg
Lennart Hjelm, Rector of the College of Agriculture, Uppsala
Inge Johansson, Rector of Studies, Workers Educational Association
Dag Klackenberg, National Union of Students
Lars Sköld, Deputy Director General
Per Stjernquist, Professor, Lund University
Erik Weinz, School Inspector, Luleå

Representatives of the labour market organisations etc.
Sven Olof Cronqvist (National Federation of Government Officers)
Sune Eriksson (Swedish Association of Local Authorities)
Folke Haldén (Swedish Employers' Confederation)
Sverker Jonsson (Federation of Swedish Industries)
Tore Karlsson (Swedish Confederation of Trade Unions)
Lennart Larsson (Swedish Central Organisation of Salaried Employees)
Karl Axel Linderoth (The Swedish Cooperative Union and Whole Sale Society)
Fingal Ström (Department of Personnel, Ministry of Finance)
Lars Tobisson (Swedish Confederation of Professional Associations)
Rolf Wikstrand (Federation of the Swedish County Councils)

Appendix 2 List of basic higher education available

This appendix lists the education available as of 1972/73 that would be classified, by the terms of U 68's proposals, as higher education.

The various types of education have been classified according to the proposed division into occupational training sectors. Certain educational programmes at the present philosophical faculties have not been classified according to occupation, but are reported collectively after the five sectors. For the Commission's proposals on the future organisation of higher studies, see Chapter 3.

Technological training

Training as	Type of principal	Training given at
1 Architect	state	university and institute of technology
2 Mining engineer	state	institute of technology
3 Fire engineer	state (Ministry of Physical Planning and Local Government)	National Fire Service College
4 Civil engineer	state	university and institute of technology
5 Production technician	municipal	upper secondary school
6 Marine engineer	state	school of navigation
7 Agronomist	state (Ministry of Agriculture)	College of Agriculture
8 Pharmacist	state	university
9 Hortonomist	state (Ministry of Agriculture)	College of Agriculture
10 Forester	state (Ministry of Agriculture)	College of Forestry
11 Laboratory assistant	municipal/county	upper secondary school
12 Landscape architect	state (Ministry of Agriculture)	College of Agriculture
13 Farm-foreman	state (Ministry of Agriculture)	Alnarp Institute
14 Food technician	state	training attached to Lund University
15 Dispenser	state	university
16 Forestry commissionaire	state (Ministry of Agriculture)	National School for Forestry Commissionaires
17 Garden technician	state (Ministry of Agriculture)	Alnarp Institute

Administrative and economic training

Training as	Type of principal	Training given at
1 Shipmaster	state	school of navigation
2 Catering manager	state	domestic training college
3 Inspector of health	state (Ministry of Agriculture)	
4 Hostel manager	municipal	upper secondary school
5 Educational and vocational guidance officer	state	school of education
6 Economist	a) state b) private	university Stockholm School of Economics
7 Lawyer	state	university
8 Public administration	state	school of social work and public administration
9 Business economist Marketer Advanced course for hotel and restaurant staff Local government administration Officials at transport companies	municipal	upper secondary school
10 Social administration:		
a) one-year	municipal	upper secondary school
b) two-year	state/municipal	university and upper secondary school
11 Personnel administration, auditing-banking-taxation, transport administration, educational administration	state/municipal	university and upper secondary school
12 Advanced training in graphic arts	a) private b) private	Institute of Graphic Arts School of Art Industry

cont.

Administrative and economic training (cont.)

Training as	Type of principal	Training given at
13 System designer Programmer	municipal	upper secondary school
14 Administrative systems work	state/municipal	university and upper secondary school
15 Barrister's secretary	municipal	upper secondary school
16 Secretary		
a) one-year	a) municipal	upper secondary school
b) 1 1/2 or 2 years	b) state/municipal	university and upper secondary school

Training in medicine and social work

Training as	Type of principal	Training given at
1 Occupational therapist	municipal/county	upper secondary school
2 Audiological assistant	county	upper secondary school
3 Speech therapist	state	university and the Royal Caroline Institute
4 Physician	state	university and the Royal Caroline Institute
5 Medical assistant	municipal/county	upper secondary school
6 Physiotherapist	a) state	institute attached to medical faculty
	b) municipal/county	upper secondary school
7 Nurse, basic and further training	municipal, county (also certain privately run schools)	nursing school
8 Dental hygienist	municipal/county	upper secondary school
9 Dentist	state	university and the Royal Caroline Institute
10 Veterinary surgeon	state (Ministry of Agriculture)	Veterinary College of Sweden
11 Director of old people's home	county	upper secondary school
12 Social educationist	a) municipal b) private	upper secondary school Training College for Social Work among Children and Young People
13 Social work	a) state	School of Social Work and Public Administration
	b) private	Sköndal Institute
14 Assistant psychologist, psychologist	state	university

Teacher training

Training as	Type of principal	Training given at
1 Teacher in child care	state	domestic training college
2 Teacher of Physical Education	state	School of physical education
3 Domestic science teacher	state	domestic training college
4 Teacher in nursing	state	State Institute for Advanced Training of Nurses
5 Teacher in medical care	state	State Institute for Advanced Training of Nurses
6 Recreational leader	municipal	upper secondary school
7 Pre-school teacher	state	pre-school teacher training college, school of education
8 Teacher in computer sciences	state	school of education
9 Dance instructor, Mime instructor	state	National School of Dancing
10 Music teacher	state	college of music
11 Music instructor	a) state b) municipal/county c) county d) foundation	college of music Örebro Institute of Music Teaching Ingesund School of Music Framnäs Folk High School
12 Art teacher	state	Art Teachers' Training College incorporated in State School of Arts, Crafts and Design
13 Subject teacher	state	school of education (university etc. for subject theory)
14 Class teacher	state	school of education
15 Handicraft teacher	state	Training College for Handicraft Teachers
16 Special teacher	state	school of education
17 Textile teacher	state	domestic training college
18 Teacher of industry and crafts	state	school of education

Training for cultural and informative occupations

Training as	Type of principal	Training given at
1 Youth leader	a) municipal b) county or private	upper secondary school Folk High School
2 Sports and leisure administration	state/municipal	university and upper secondary school
3 Librarian	state	College of Librarianship
4 Journalist	state	College of Journalism
5 Advanced training in advertising	private	College of Advertising
6 Director, producer, stage designer etc.	state	National Institute of Drama
7 Stage artist	state	State Drama Schools, National Academy of Musical Drama
8 Choreographer, mime artist	state	National Academy of Dancing
9 Painter, sculptor etc.	a) state b) municipal	National College of Art Valand Academy of Art
10 Craftsman	a) state b) private	National School of Arts, Craft and Design School of Art Industry
11 Church musician, instrumental musician, singer, composer and conductor	state	College of Music
12 Religious work	state	university

Other higher education

Training	Type of principal	Training given at
Education at philosophical faculties, not listed above	state	university

Appendix 3 List of educational programmes proposed by U 68

1 *Technological training*

General educational programmes

architecture
mining and metallurgy
economics and technology
electrotechnology
aerotechnology
geotechnology
chemical technology
land surveying
mechanical technology
technical physics
technical physics and electrotechnology
civil engineering
pharmaceutical programmes
dispenser
laboratory assistant
agriculture
farm-foreman
horticulture
landscape architecture
garden architecture
foresters
forestry commissionaire
fire engineer
production technician
marine engineer
short-cycle technical programmes

technical variant of
- physics and chemistry programme
- chemistry and biology programme
- mathematics and systems programme

Local and individual educational programmes

Local or individual educational programmes with a technological occupational structure can comprise, for instance, shorter training alternatives and combinations of courses within the programmes for engineers, agronomists, and foresters, and within the programme variants given above.

2 *Administrative and economic training*

General educational programmes

law
law and social sciences
philosophy and social sciences
economy and business administration
community planner
public administration
catering management
hostel management
health inspector
advanced training in graphic arts
ship master
auditing, banking and taxation
social administration
educational administration
personnel administration
transport administration
administrative systems work
secretarial work

administrative-economic variant of
- pedagogics and sociology programme
- social sciences programme 1
- social sciences programme 2
- mathematics and social sciences programme
- mathematics and systems programme
- statistics programme

Local and individual educational programmes

There is a need in the administrative occupational sector for persons with expertise in widely different fields. In many cases, administrative staff are recruited from among technicians, teachers, medical and nursing staff etc. already active in the field to which administration relates. However, there is also a need for a direct recruitment from higher education of persons with an educational base in the behavioural sciences, natural sciences or humanities, or with another basic education in the social sciences than that given on general educational programmes. Combinations of courses within different educational sectors can also be motiva-

ted. It has been assumed that studies to this end will be pursued to a considerable extent on local or individual educational programmes, covering, for instance, courses of 80 or 100 points relating to the behavioural, social, and natural sciences or the humanities, and 40 or 20 points in business economy, the economics special course or other special courses in the upper secondary school, administrative techniques or labour market techniques with personnel administration.

In this sector, too, shorter training alternatives should be offered as local and individual programmes.

3 *Training in medicine, social work etc.*

General educational programmes

occupational therapy
audiological assistants
speech therapy
physician
medical assistant
psychologist
physiotherapy
nurse
director of old people's home
dentist
dental hygienist
social work
social educationist
veterinary surgeon

Local and individual educational programmes

The majority of occupations in this sector are governed by formal qualification requirements which usually presuppose completion of one of the above educational programmes. This, of course, should not prevent experiments with educational programmes that are judged by the relevant authorities to be suitable for occupational activities in the sector.

4 *Teacher training*

General educational programmes

(The list does not include teacher training affected by the proposals of the Committee on Teacher Training, such as teachers in physical education, art, domestic science etc.).

class-teacher
pre-school teacher
recreational leaders
special teacher

teachers in vocational subjects
music instructor
dance instructor

subject teacher programmes, comprised of variants within
- physics and chemistry programme
- chemistry and biology programme
- psychology programme
- social sciences programme 2
- history and social sciences programme
- mathematics and social sciences programme
- languages programme
- history programme
- programme of Swedish language and literature

Local and individual educational programmes

Teaching occupations are covered for the most part by formal qualification requirements, which presuppose as a rule completion of one of the above educational programmes. This, of course, should not prevent experiments with educational programmes that are judged by the relevant authorities to be suitable for occupational activities in the teaching sector.

5 *Training for cultural and informative occupations*

General educational programmes

religion
youth leader
journalist
communications and advertising
stage director
stage artist
choreographer
craftsman
church musician
instrumental musician
singer

culture and information variant (including variants with emphasis on librarianship) of
- physics and chemistry programme
- chemistry and biology programme
- psychology programme
- pedagogics and sociology programme
- social sciences programme 2
- history and social sciences programme
- mathematics and social sciences programme
- mathematics and systems programme

statistics programme
languages programme
history programme
programme of Swedish language and literature

It is not proposed that all training of artists should be organised in the form of educational programmes.

Local and individual educational programmes

Training for cultural and informative activities is traditionally given to a large extent in individual combinations. It is natural that this should continue to be the case. For this reason, and to offer the opportunity to develop general educational programmes with the help of local programmes, individual and local programmes should cover a relatively high proportion of training capacity in this occupational sector.

One can make an educational programme directly prepare for an occupation by incorporating certain occupationally geared courses in e. g. information techniques and museum techniques in the programme concerned.

It is desirable that students with various combinations, including in the natural sciences, should be retruited to informative occupations.

Appendix 4 Capacity of the occupational training sectors

This appendix reports U 68's proposals on admission figures for educational programmes or groups of programmes in higher education in the mid Seventies (cf. section 2.4).

Table 1. Summary of proposals on admission figures for technological training (general educational programmes)

Educational programmes/groups of programmes	Present admission capacity, as a rule 1971/72	U 68's proposals for the mid Seventies (approx. figures)	
		U	L
1 Four-year technical programmes (technological faculty)	3 250	3 500	3 500
2 Training in natural sciences and mathematics	..	1 000	800
3 Short-cycle technical programmes	–	700	500
4 Pharmaceutical training	320	280	160
5 Training of laboratory assistants	900	1 000	900
6 Training in agriculture and forestry	365	400	400
7 Other technological training	430	450	450
Total		7 300	6 700

U = Upper planning limit
L = Lower planning limit

Table 2. Summary of proposals on admission figures for administrative and economic training (general educational programmes).

Educational programmes/groups of programmes	Present admission capacity, as a rule 1971/72	U 68's proposals for the mid Seventies (approx. figures)	
		U_g	L
1 Law education	approx. 1 300	1 000	800
2 Training of economists, social planners, public administrators, etc.	..	3 400	3 000
3 Other 3-year administrative and economic training	..	1 000	800
4 2-year administrative and economic training	570	1 000	900
5 2-year training in administrative systems work	120	250	250
6 1-year administratively and economically geared courses	500	500	500
7 1-year course for the training of systems engineers and programmers	1 080	1 200	1 000
8 Other administrative and economic training	400	500	500
Total		8 800	7 700

U = Upper planning limit
L = Lower planning limit

Table 3. Summary of proposals on admission figures for medicine, social work etc. (general educational programmes).

Educational programmes/groups of programmes	Present admission capacity, as a rule 1971/72	U 68's proposals for the mid Seventies (approx. figures)	
		U	L
1 Training of physicians	975	1 050	1 050
2 Short-cycle higher education in the medical, nursing and social work sector	4 250	5 000	4 800
3 Training of dentists	380	500	500
4 Training of dental hygienists	50	100	100
5 Training of social workers	1 100	1 400	1 250
6 Training of psychologists	750[1]	600	550
7 Training of speech therapists	20	50	50
8 Training of social educationists	65	75	75
9 Training of veterinary surgeons	50	50	50
Total	7 600	8 800	8 400

[1] Admission capacity to studies for 40 points in psychology
U = Upper planning limit
L = Lower planning limit

Table 4. Summary of proposals on admission figures for teacher training (general educational programme).

Educational programmes/groups of programmes	Present admission capacity, as a rule 1971/72	U 68's proposals for the mid Seventies (approx. figures)	
		U	L
1 Training of subject teachers	2 300	2 900	2 700
2 Training of Lower and Middle level teachers	3 400	2 500	2 200
3 Training of teachers in physical education, art, music, domestic science, handicrafts etc.	780	[1]	[1]
4 Training of pre-school teachers	2 100	3 800	3 800
5 Training of recreational leaders	280		
6 Teachers in industrial subjects, craft etc.	460	500	500
7 Instructors of music and dancing	170	200	200
Total	9 500	9 900	9 400

[1] Included in admission to the educational programme for subject teachers
U = Upper planning limit
L = Lower planning limit

Table 5. Summary of proposals on admission figures for training in cultural and informative occupations (general educational programmes).

Educational programmes/groups of programmes	Present admission capacity, as a rule 1971/72	U 68's proposals for the mid Seventies (approx. figures)	
		U	L
1 Training for youth and leisure activities	280	300	300
2 Training for cultural and informative activities		400	400
3 Training as librarian	360[1]	360	360
4 Religion	200–300	500	400
5 Advanced training in art	350	400	400
Total		2 000	1 900

[1] The admission capacity of the College of Librarianship 1972/73.
U = Upper planning limit
L = Lower planning limit

Appendix 5 Unit costs of higher education

Table 1. Estimated average costs for teaching and administration per place and year for basic higher education (Swedish crowns, 1972 wages and prices).
For educational programmes including courses at the present philosophical faculties, see Table 2.

Training	Cost
TECHNOLOGICAL TRAINING	
State	
Architect, mining engineer, civil engineer	14 000
Pharmacist	14 000
Dispenser	8 000
Agronomist, hortonomist, landscape architect	12 000
Farm foreman	12 000
Garden technician	16 000
Forester	20 000
Forestry commissionaire	25 000
Fire engineer	14 000
Marine engineer	7 000
Short-cycle technical programmes	10 000
Municipal	
Laboratory assistant	18 000
Production technician	8 000
ADMINISTRATIVE AND ECONOMIC TRAINING	
State	
Law	3 000
Public administration	6 000
Catering manager	12 000
Health inspector	8 000
Ship master	7 000
Municipal	
1-year courses, average	6 000
Hostel manager	7 000
Secretary	4 500
Other	
Advanced training in graphic arts	6 000

Training	Cost
TRAINING IN MEDICINE, SOCIAL WORK ETC.	
State	
Physician	25 000
Dentist	16 000
Social worker	6 000
Veterinary surgeon	20 000
Physiotherapist	7 000
Municipal	
Occupational therapist	5 000
Audiological assistant	9 000
Medical assistant	9 000
Nurse	9 000
Director of old people's home	8 000
Dental hygienist	11 000
Social educationist	14 000
TEACHER TRAINING	
State	
Class teacher	12 000
Pre-school teacher	6 000
Teacher of industry and craft	12 000
Teacher in computer sciences	20 000
Dance instructor	25 000
Municipal	
Recreational leader	12 000
Music instructor	14 000
TRAINING FOR CULTURAL AND INFORMATIVE OCCUPATIONS	
State	
Religion	3 500
Journalist	9 000
Stage director	90 000
Stage artist	40 000
Choreographer	50 000
Mime artist	25 000
Painter, sculptor	14 000
Craftsman	12 000
Church musician, instrumental musician, singer	14 000
Other	
Communications and advertising programme	8 000

Table 2. Estimated average costs for teaching and administration per resource place and year for courses within educational programmes corresponding to present education at philosophical faculties etc. (Swedish crowns, 1972 wages and prices).

Course (corresponding)	Cost
Subject fields in behavioural sciences, social sciences, linguistics and history/aesthetics/science of religion (excl. psychology and information processing)	4 000–5 000
Psychology	10 000
Information processing	8 000
Biology, chemistry, speech therapy	20 000
Physics	16 000
Other subject fields, average	14 000
Educational and vocational guidance	8 000
Practical pedagogic training for subject teachers	25 000
Training in librarianship	10 000
Upper secondary courses incorporated in combined education (excl. course in information processing)	6 000–7 000
Ditto course in information processing	10 000
Special economic course	7 000

Table 3. Estimated total costs of higher education programmes (Swedish crowns, 1972 wages and prices).
For costs of courses in certain cases, see Table 2.

Training	Length of training period yrs	Total cost of teaching and administration
Physician	5,5	140 000
Veterinary surgeon	5,5	110 000
Dentist	5	80 000
Lawyer	4,5	15 000
Agronomist	4	50 000
Civil engineer	4	55 000
Subject teacher, laboratory-type subjects	4	80 000
Subject teacher, non-laboratory subjects	4	35 000
Economic programme	3	12 000
Middle level teacher	3	35 000
State drama schools	3	120 000
Lower level teacher	2,5	30 000
Nurse	2,5	25 000
Social administration	2	10 000

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